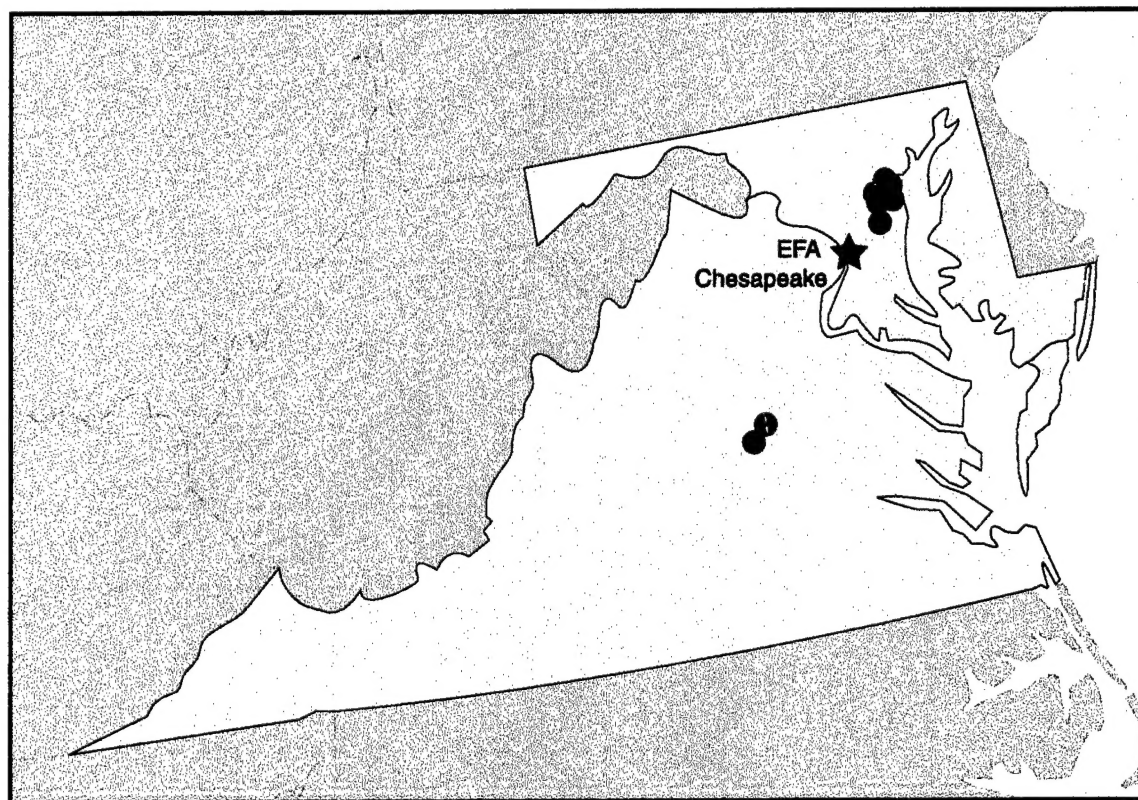


An Archaeological Curation-Needs Assessment for the U.S. Navy, Engineering Field Activity, Chesapeake Division



Technical Report No. 19



1999



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St. Louis District

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An Archaeological Curation-Needs Assessment for the U.S. Navy, Engineering Field Activity, Chesapeake Division

by

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St. Louis District

Mandatory Center of Expertise for the Curation and

Management of Archaeological Collections

Archaeological Curation-Needs Assessments

Technical Report No. 19

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List of Acronyms

DoD	Department of Defense
EFA	Engineering Field Activity
HVAC	heat, ventilation, and air-conditioning
JMA	John Milner and Associates
JPPM	Jefferson Patterson Park and Museum
KCI	KCI Technologies, Inc.
MCB	Marine Corps Base
MCX-CMAC	Mandatory Center of Expertise for the Curation and Management of Archaeological Collections
MHT	Maryland Historical Trust
NAGPRA	Native American Graves Protection and Repatriation Act
NAVFAC	U.S. Navy Facilities Engineering Command
NAWC	Naval Air Warfare Center
NCD	Naval Communication Detachment
NESEA	Naval Electronic Systems Engineering Activity
NSWC	Naval Surface Warfare Center
NTF	Naval Training Facility
VDHR	Virginia Department of Historic Resources

Executive Summary

Problem

Federal archaeological collections are a significant and nonrenewable national cultural resource; however, curation of these materials has been largely substandard. The result has been a steady deterioration of these resources, which include many priceless objects of long-vanished cultures. A significant number of these collections of our nation's heritage have been abandoned in the attics, basements, and closets of countless storage facilities across the United States. The improper care and subsequent deterioration of these collections not only violate the laws under which they were recovered but also prevent educational and scientific use. Unfortunately, many valuable collections of North American prehistory and history have been lost, and the considerable financial investment of the American public in archaeological recovery consumed. A substantial portion of these national cultural treasures, however, still exists. Given proper housing and care, these nonrenewable resources can be saved for future generations. The U.S. Navy Facilities Engineering Command (NAVFAC) and the Engineering Field Activity (EFA), Chesapeake Division, are committed to this future and are interested in long-term management of archaeological collections.

Background

Department of Defense (DoD) installations and facilities are responsible for the management of archaeological and historical resources that are located on and recovered from their properties. As mandated by federal law, installations and facilities are required to ensure that collections, including artifacts and records, generated from archaeological undertakings are properly curated in perpetuity. Unfortunately, funding shortfalls, lack of a consistent national policy, and a misunderstanding of the magnitude of the problem have hindered compliance.

Collections recovered from DoD installations and facilities are public property, the result of many years of archaeological research and the expenditure of millions of federal dollars. A federally sponsored mitigation program usually provides for the recovery of materials from archaeological

sites, the analysis of recovered items, the publication and circulation of a final report, and the placement of collections in storage facilities for preservation, display, or future study. In the past, federal agencies gave little attention to the maintenance of collections once salvage programs were completed, with the result that through the years, most collections have been stored free of charge by universities and museums. Inadequate funding and failing facilities now seriously hinder the ability of these institutions to adequately care for archaeological collections and records.

Table 1.
Locations of Repositories that Hold Collections from
EFA Chesapeake Facilities

Installation	Repository	City	State
NTF Bainbridge	Maryland Historical Trust	Crownsville	Maryland
NCD Cheltenham	Greenhorne and O'Mara	Greenbelt	Maryland
NSWC Carderock	NSWC Carderock	Bethesda	Maryland
	Maryland Historical Trust	Crownsville	Maryland
NSWC Dahlgren	NSWC Dahlgren	Dahlgren	Virginia
	Goodwin and Associates	Frederick	Maryland
	Greenhorne and O'Mara	Greenbelt	Maryland
	Virginia Department of Historic Resources	Richmond	Virginia
NSWC Indian Head	NSWC Indian Head	Indian Head	Maryland
	John Milner and Associates	Alexandria	Virginia
U.S. Naval Academy	KCI Technologies	Mechanicsburg	Pennsylvania
	Historic Annapolis Foundation	Annapolis	Maryland
MCB Quantico	John Milner and Associates	Alexandria	Virginia
	Virginia Department of Historic Resources	Richmond	Virginia
	William and Mary Center for Archaeological Research	Williamsburg	Virginia
	Parsons Engineering Science	Fairfax	Virginia
NAWC Patuxent	Jefferson Patterson Park and Museum	St. Leonard	Maryland
	Maryland Historical Trust	Crownsville	Maryland
NESEA St. Ingioes ¹	Maryland Historical Trust	Crownsville	Maryland

All evaluations were conducted in accordance with protocols established by MCX-CMAC and guided by 36 CFR Part 79.

¹ NESEA St. Ingioes is a subinstalltion of NAWC Patuxent.

At the request of NAVFAC, the U.S. Army Corps of Engineers, St. Louis District, performed a curation assessment for the facilities within EFA Chesapeake's footprint (listed below and in Table 1) that provides detailed information on the amounts of archaeological artifacts and records for each facility (Table 2). Project funding was provided by NAVFAC, with Glen Alderton serving as project manager. Work was performed during

Table 2.
EFA Chesapeake Collection Summary

Installation	Repository	Volume of Collections (Ft³)	Documentation (linear feet)
NTF Bainbridge	Maryland Historical Trust	13.10	0.25
NCD Cheltenham	Greenhorne and O'Mara	1.30	0.55
NSWC Carderock	NSWC Carderock	1.00	0.83
	Maryland Historical Trust	0.00	0.27
NSWC Dahlgren	NSWC Dahlgren	26.10	1.63
	Goodwin and Associates	1.20	0.19
	Greenhorne and O'Mara	0.00	0.17
	Virginia Department of Historic Resources	7.70	0.10
NSWC Indian Head	NSWC Indian Head	0.80	1.45
	John Milner and Associates	0.50	0.08
	Maryland Historical Trust	12.90	0.00
U.S. Naval Academy	Historic Annapolis Foundation	24.50	0.90
	KCI Technologies	29.60	2.63
MCB Quantico	John Milner and Associates	1.20	0.04
	Virginia Department of Historic Resources	1.10	0.00
	William and Mary Center for Archaeological Research	11.70	0.60
	Parsons Engineering Science	0.45	0.00
NAWC Patuxent	Jefferson Patterson Park	129.00	6.00
	Maryland Historical Trust	2.30	1.29
NESEA St. Ingioes ¹	Maryland Historical Trust	16.90	0.00
Total		281.35	16.98

¹ NESEA St. Ingioes is a subinstalltion of NAWC Patuxent.

February, May, and November of 1995 and in May and September of 1996.
The research focused on the following facilities.

U.S. Naval Academy, Maryland

Naval Training Facility, Bainbridge, Maryland

Naval Surface Warfare Center, Carderock Division, Maryland

Naval Communications Detachment, Cheltenham, Maryland

Naval Surface Warfare Center, Dahlgren Division, Virginia

Naval Surface Warfare Center, Indian Head Division, Maryland

Naval Air Warfare Center, Patuxent Division, Maryland

Marine Corps Base, Quantico, Virginia

Issues

Several collections from archaeological investigations conducted on NSWC Dahlgren were not assessed by MCX-CMAC personnel because of scheduling constraints and lack of information. The first collection is the result of investigations conducted by American University in Washington, D.C., in the late 1970s. To date, neither personnel from the MCX-CMAC nor the NSWC Dahlgren cultural resource manager have been able to locate collections from this investigation.

The second collection is from an ongoing investigation by the Center for Historic Preservation at Mary Washington College in Fredericksburg, Maryland. These materials (approximately 6 ft³) are currently being analyzed and have not yet been returned to NSWC Dahlgren for storage. The materials consist of prehistoric and historic artifacts, which were to be transferred to NSWC Dahlgren in October 1996 for permanent curation.

All chapters in this report were made available for review to EFA Chesapeake personnel and to the pertinent points of contact at each repository. Comments and new information, from those who replied, regarding either the collections or the repositories holding the materials were summarized and included in the *Editor's Note* section at the end of each chapter.

Findings

Status of Repositories

(1) *Repository Adequacy:* EFA Chesapeake collections (artifacts and records) presently are curated in 17 repositories in three states (Table 1). There are 13 individual curation facilities, but four of them have two curation repositories each, bringing the total to 17. Therefore, 17 is used to calculate all repository statistics. All of these repositories were visited and inspected and are described below. None fulfill all standards mandated by 36 CFR Part 79.

(2) *Repository Maintenance:* All of the repositories that were inspected receive some measure of maintenance. Sixteen of the repositories are cleaned by professional companies on a regular basis (e.g., daily or weekly), whereas one receives service on an as-needed basis only.

(3) *Environmental Controls:* All of the repositories inspected possess certain environmental controls. Ten of the repositories have dust filters on furnace and/or air-conditioning vents. All of the repositories have heat, and all but one repository have air-conditioning systems.

(4) *Security:* None of the repositories meet all federal guidelines for security. Twelve repositories possess intrusion alarms, use a guard or patrol service, or have limited-access areas open only to certain personnel. All

possess locks on interior and exterior doors and on all windows. Three of the repositories make use of motion detectors, and none have reported major cases of unauthorized entry that resulted in the removal of collections. The potential for such an incident does exist at most of the repositories, especially those that do not currently possess intrusion alarm systems.

(5) *Fire Detection and Suppression:* Twelve of the repositories possess smoke detectors, one repository uses heat sensors, and 14 have regularly inspected fire extinguishers at key locations in both the repository and collections areas. In addition, only eight repositories have sprinkler systems in place. Only three (Maryland Historical Trust, KCI Technologies, and Parsons Engineering Science) repositories meet all of the federal requirements for safeguarding against fire (smoke and heat detectors, alarm to local fire company, sprinklers, and fire extinguishers). All of the other repositories possess at least eighty percent of the recommended standards.

(6) *Pest Management:* All of the repositories use professional pest management services. In nine of the repositories treatment takes place on a monthly basis. Most repositories reported only treatment and limited monitoring.

Status of Artifacts

EFA Chesapeake artifact collections consist of approximately 281.4 ft³ of material in 20 distinct collections. All of the materials in these collections consist of prehistoric and historic artifacts. At the present time, none of the collections fully meet existing federal requirements for archaeological curation. Approximately twenty percent of all artifacts will require complete rehabilitation to meet current federal standards; nearly eighty percent will require partial rehabilitation.

Status of Human Remains

No human remains were recovered from any of the EFA Chesapeake facilities outlined in this report.

Status of Documentation

EFA Chesapeake documentation encompasses 16.9 linear feet, including reports and field, administrative and photographic records. Administrative records include correspondence, scopes of work, proposals, and internal documents. None of the documentation collections contain the anticipated (based on type of archaeological investigation) range of document types. As such, the documentation collection's potential for research is limited. Approximately one-fourth of all documentation will require complete rehabilitation to meet current federal requirement; another seventy-five percent require only partial rehabilitation.

In many of the collections, documents were never submitted by the contracting archaeologist or agency, and the facilities have not requested their transfer. If all significant records for a given project are not curated, then the full range of documenting media is lacking and the collection is incomplete. It is clear that collections managers or archaeologists have not always considered documentation to be part of the archaeological collection and, therefore, worthy of curatorial consideration. The result is that records for some of the collections cannot be located. This problem should be aggressively addressed.

None of the collections are managed according to professional archival practices. For the most part, the documents still reside with the contractor, who in most cases is not equipped to provide the documents with the attention they require. Less than five percent of the paper records have been photocopied for security purposes. Photographs are stored along with paper records. Labels for photographs, when present, are directly applied to acidic folders, a practice that is not recommended for the long-term preservation of records. In summary, the records are receiving the worst treatment and are in the greatest danger. Efforts to correct this situation should be taken immediately.

Status of Repository Management Controls

All of the repositories possess limited management controls. Archaeological contracting firms currently hold most of the EFA Chesapeake collections; however, these firms do not possess professional curation controls. They do keep records and artifacts in order and arrange them according to project, in most cases, for ease of access. But they do not have appropriate controls to adequately store collections for any length of time. Given this, it is clear that all collections are at great risk and are not being cared for in accordance with the provisions of 36 CFR Part 79.

Corrective Actions

A number of corrective actions are necessary to bring EFA Chesapeake collections and those repositories housing them into compliance with 36 CFR Part 79. General recommendations include the following.

- (a) Coalesce collections into a repository located in the same state as the Navy facility if possible and feasible.
- (b) Identify and systematically inventory all archaeological collections and associated documentation recovered from EFA Chesapeake facilities using one uniform system.
- (c) Rehabilitate and/or conserve artifact collections, and archivally preserve documents and reports.

- (d) Develop and implement uniform inventory procedures.
- (e) Develop and implement formal archives management programs.

If implemented, these corrective measures would allow EFA Chesapeake to meet the minimum federal requirements for adequate long-term curation of archaeological collections. By adopting this approach, EFA Chesapeake has the opportunity to implement a plan that will serve its curation needs well into the next century.

Conclusions

Implementing each recommendation may not be immediately possible. However, because (1) the collections are rapidly deteriorating in their current storage environments and (2) there is no long-term, consistent management plan for the proper curation of archaeological collections, some action is necessary. These federal collections provide information that can be used to generate data that could prove invaluable for public education and archaeological research. If not properly cared for soon, they will lose their educational and research potential. Any progress toward better preservation will help ensure the survival of the collections and their usefulness to future generations.

Acknowledgments

We thank Glen Alderton of NAVFAC for her assistance with this project. In addition, the following individuals provided great time and effort to assist MCX-CMAC personnel in the completion of this work. For their assistance and contributions to these curation-needs assessments, and to others not mentioned who may have assisted in any way, we offer our wholehearted gratitude.

NSWC Carderock

Bill Spicer

NSWC Dahlgren

Patricia Albert

NSWC Indian Head

Jeff Bossart

Maryland Historical Trust

Ronald Orr

Greenhorne and O'Mara

Bruce McGranahan

Bernard Means

R. Christopher Goodwin and Associates*Christopher Goodwin**Terry Reimer***Virginia Department of Historic Resources***Keith Egloff**Beth Acuff***John Milner and Associates***Charles Cheek**Dana Heck***KCI Technologies***Richard Geidel***Historic Annapolis Foundation***Jane Cox**Lynne Jones***The College of William and Mary Center for Archaeological Research***Don Linebaugh**Dennis Blanton***Jefferson Patterson Park and Museum***Julie King***Parsons Engineering Science***Mike Petraglia**Carter Shields*

Introduction

Facilities under the command of NAVFAC are responsible for archaeological artifact collections and documentation (hereafter referred to as archaeological collections) recovered from their property. This responsibility is mandated through numerous legislative enactments, including the Antiquities Act of 1906 (P.L. 59-209), the Historic Sites Act of 1935 (P.L. 74-292), the Reservoir Salvage Act of 1960 (P.L. 86-523), the National Historic Preservation Act of 1966 (P.L. 89-665), and the Archaeological Resources Protection Act of 1979 (P.L. 96-95). Executive Order 11593 (U.S. Code 1971) and amendments to the National Historic Preservation Act in 1980 provide additional protection for these resources. Preservation of federal archaeological collections is required by 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Additionally, the Department of the Navy's Environmental and Natural Resource Manual, *Historic and Archeological Resources Protection* (OPNAVINST 5090.1B, 23-6.7j, November 1994), states that commanding officers of shore facilities must provide for storage and professional curation of significant archeological collections acquired as a result of carrying out legal compliance actions.

In 1990 the Native American Graves Protection and Repatriation Act (NAGPRA, P.L. 101-601) was enacted to (1) identify the federal agencies with archaeological collections that contain Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony and (2) facilitate agreements between federal agencies

and Native American Indian Tribes and Native Hawaiian organizations on the repatriation or disposition of these remains and objects. All federal agencies are required to meet mandated deadlines for compliance with NAGPRA. A summary of unassociated funerary objects, sacred objects, and objects of cultural patrimony was required by November 16, 1993. Additionally, an inventory of human remains and associated funerary objects was mandated by November 15, 1995.

In July of 1995, as the first step in complying with 36 CFR Part 79 and NAGPRA, Glen Alderton of NAVFAC contacted MCX-CMAC to discuss an interagency agreement that would address these requirements. After a series of consultations with Dr. Michael K. Trimble, chief of the Curation and Archives Analysis Branch in the St. Louis District and director of MCX-CMAC, an approach was recommended that would identify and evaluate collections from EFA Chesapeake facilities in accordance with the federal curation requirements of 36 CFR 79. Data gathered by MCX-CMAC would also provide NAVFAC and EFA Chesapeake with NAGPRA-compliance information. A memorandum of agreement was signed between the two parties that empowered the St. Louis District to conduct curation-needs assessments at EFA Chesapeake facilities. According to this agreement, MCX-CMAC would provide NAVFAC with a general inventory of its archaeological collections that would outline its curation needs. Concurrently, collections managers would receive a plan addressing their specific curation needs and, when appropriate, the corrective actions required to bring their facility into compliance with 36 CFR Part 79.

In the memorandum of agreement, the St. Louis District agreed to provide the following.

1. Professional and technical services to NAVFAC for the inspection and inventory of archaeological collections from EFA Chesapeake facilities.
2. Information that would enable NAVFAC to fulfill the requirements of the November 15, 1993, NAGPRA deadline.
3. A final report that details the results of the inspection and evaluation and addresses the physical description of all repository facilities, recovered artifact collections, and associated documentation collections.
4. A master bibliography of reports associated with archaeological investigations performed on EFA Chesapeake properties.

As part of the curation-needs assessment, personnel from the St. Louis District visited the facilities to examine reports, records, and inventory data associated with federal collections and developed a bibliography of reports.

Methods

All EFA Chesapeake facilities were evaluated during the course of the fieldwork for this project, which included four distinct tasks.

Pre-Fieldwork Investigation

Assessment of each facility's compliance with 36 CFR Part 79 included the following four items.

1. A (National Park Service) National Archeological Database and a general records search were performed for each of the EFA Chesapeake facilities.
2. Each facility was visited in order to examine all reports, records, and inventory data associated with EFA Chesapeake archaeological collections and to compile a bibliography of reports.

3. Initial contacts were made with all personnel and agencies with knowledge of EFA Chesapeake archaeological collections.

4. From these initial contacts, a list was developed of all contracting agencies and repositories associated with the recovery or curation of materials from EFA Chesapeake facilities.

Field Inspection and Assessment of Repositories and Collections

Assessment of the archaeological collections and the repositories that house them involved the following four major tasks.

1. A survey questionnaire soliciting information on repositories, artifact collections, and associated documentation was completed for every facility involved with the curation of archaeological collections from a given facility.
2. A building evaluation form—addressing structural adequacy, space utilization, environmental controls, security, fire detection and suppression, pest management, and utilities—was completed for every facility and satellite repository involved with the curation of archaeological collections recovered from EFA Chesapeake facilities. These data, gathered both by observation and through discussion with collections managers, allowed for a determination of whether the facility was in compliance with the requirements for repositories as specified in 36 CFR Part 79.
3. An examination of all project and site reports, administrative files, field records, curation records, electronic media, and photographic records was performed to determine their presence or absence, the total linear feet of each type of documentation, the physical condition of the containers and the records, the presence of finding aids, and the overall condition of the storage environment. The determination of whether the facility was in compliance with the archives management requirements specified in 36 CFR Part 79 is based on this research.

4. An examination and evaluation of all artifact collections included an assessment of primary and secondary containers, the degree of container labeling, the extent of laboratory processing, the material classes included in each collection, and the condition of any human skeletal remains. Primary containers (e.g., acidic and acid-free cardboard boxes; cardboard, metal, and wooden trays; and wooden and metal drawers) are the receptacles that house an individual artifact or group of artifacts. Secondary containers (e.g., acidic paper bags, plastic sandwich bags, plastic zip-lock bags, glass jars, film vials, aluminum foil, and small acidic and acid-free cardboard boxes) are those included within the primary containers that contain the artifacts.

NAGPRA-Compliance Assessment

No human skeletal remains were noted by the assessment teams in any of the EFA Chesapeake collections.

Report Preparation

1. A written report detailing the results of the curation-needs assessment includes estimates of the sizes and conditions of the collections and descriptions of the facilities.
2. Recommendations for rehabilitation of the facilities and/or the collections, according to standards set forth in 36 CFR Part 79, are provided to EFA Chesapeake by MCX-CMAC.

Chapter Synopsis

Chapters 2 through 9 outline findings from each facility. Chapters 10 through 19 outline the findings from each of the repositories that hold EFA Chesapeake collections. Building and collection information are presented in these chapters, as are recommendations for the disposition of the collections in question. Chapter 20—overall finding summary for EFA Chesapeake collections—summarizes information contained in Chapters 2 through 19. Chapter 21 presents recommendations for all EFA Chesapeake installations investigated by the MCX-CMAC for compliance with 36 CFR Part 79.

2

Marine Corps Base, Quantico

Quantico, Virginia

Facility Summary

Volume of Artifact Collections: 14.45 ft³

On base: None

Off base: 14.45 ft³ are curated at the following facilities: 1.2 ft³ at John Milner and Associates (see Chapter 17); 11.7 ft³ at The College of William and Mary Center for Archaeological Research (see Chapter 10); 1.1 ft³ at the Virginia Department of Historic Resources (see Chapter 19); and 0.45 ft³ at Parson's Engineering Science (see Chapter 18).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 0.64 linear feet

On base: None

Off base: 0.04 linear feet of associated documentation are being curated at John Milner and

Associates (see Chapter 17) and 0.6 linear feet at the College of William and Mary Center for Archaeological Research (see Chapter 10).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Installation Repository: MCB, Quantico does not have a dedicated archaeological repository.

Bibliography

Anonymous

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3

Naval Air Warfare Center, Patuxent River

Patuxent River, Maryland

Facility Summary

Volume of Artifact Collections: 148.2 ft³

On base: None

Off base: 148.2 ft³ are curated at the following facilities: 129 ft³ at Jefferson Patterson Park (see Chapter 14) and 19.2 ft³ at Maryland Historical Trust (see Chapter 16).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 7.29 linear feet

On base: None

Off base: 6 linear feet of associated documentation are being curated at Jefferson Patterson Park (see Chapter 14) and 1.29 linear feet at the Maryland Historical Trust (see Chapter 16).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: NAWC Patuxent River and NESEA St. Inigoes (an on-property subfacility) do not have dedicated archaeological repositories.

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4

Naval Communication Detachment, Cheltenham

Cheltenham, Maryland

Facility Summary

Volume of Artifact Collections: 1.3 ft³

On base: None

Off base: 1.3 ft³ of prehistoric and historic artifacts are located in the offices of Greenhorne and O'Mara (see Chapter 12).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 0.55 linear feet

On base: None

Off base: 0.55 linear feet of associated documentation are located in the offices of Greenhorne and O'Mara (see Chapter 12).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: NCD Cheltenham does not have a dedicated archaeological repository.

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5

Naval Surface Warfare Center, Carderock Division

Annapolis, Maryland

Facility Summary

Volume of Artifact Collections: 1 ft³

On base: 1 ft³

Off base: None

Compliance Status: Collections will require complete rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 1.1 linear feet

On base: 0.83 linear feet

Off base: 0.27 linear feet at the Maryland Historical Trust (see Chapter 16).

Compliance Status: Records will require complete rehabilitation to comply with existing

federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Status of Installation Repository: NSWC Carderock Division does not have a dedicated archaeological repository.

Bibliographic References: None Located.

Date of Visit: May 13, 1996

Point of Contact: Bill Spicer

Collections from archaeological projects conducted on NSWC Carderock Division are stored in the facility environmental office. Artifacts total 1 ft³ and are mostly historic in nature. About 0.83 linear feet of associated documentation are also present. A building evaluation of the repository was conducted and is detailed below.

Assessment

Building N currently serves as the NSWC Carderock Division Environmental Office. The building encompasses approximately 10,000 ft² and has always served as office space. There is a kitchen/break room present in the building in addition to the offices.

Building N is a steel-frame structure set on piers with a reinforced concrete foundation. Exterior walls are of wood siding; the roof is built-up asphalt and is original. No cracks in the foundation or leaks in the roof have been noticed by staff members. Interior walls are made of plasterboard and the ceiling is suspended acoustical tile. All windows in this repository have blinds and aluminum window

frames. According to staff, none of these windows have shown any evidence of water leakage. Most windows in the repository are original.

Environmental Controls

The building has central air conditioning and zoned heat controls. Temperature is set to staff preferences. No humidity control is presently conducted. Dust filters are present on the ventilation ducts, and the building is regularly (daily) maintained by a professional janitorial service. Facility lighting is fluorescent, and none of the lights are filtered. All interior doors are solid wood and exterior doors are glass and metal. Building utility systems include heat, plumbing, and electricity. All utility systems are original equipment.

Pest Management

Pest maintenance occurs on an as-needed basis, and no infestation problems of any kind have been noticed by base personnel.

Security

The facility possesses key locks on all interior and exterior doors. All windows have locks, and the area is patrolled by base security. As of this visit, Building N has not experienced any unauthorized entry.

Fire Detection and Suppression

A fire alarm wired to the local fire department is present, along with smoke detectors and heat sensors situated throughout the building. The building also possesses fire doors (rating = 20 min) and fire walls (rating = 2 hr) throughout. There are two fire extinguishers in this repository that were last inspected in April 1996.

Collections Storage Area

The collections storage area is structurally identical to the rest of the repository and shares common environmental, utility, and fire detection and suppression and security systems. Maintenance and pest management schedules are the same as the rest of the facility. Artifacts and records from facility archaeology projects are stored in two acidic cardboard boxes that are kept in the cultural resource

manager's cubicle. This is the extent of space allocated for curation.

Artifact Storage

Approximately 1 ft³ of artifacts from NSWC Carderock Division is stored in the same acidic cardboard boxes used to hold records. Artifacts are packed in paper and plastic bags (zip-lock) that are directly labeled with NSWC stickers that list site name, provenience, and date. Materials consist of fire-cracked rock, shell, brick fragments, metal, and glass (Table 3). None of the artifacts are labeled and only 20% have been cleaned. This collection will have to be completely rehabilitated to comply with 36 CFR Part 79.

Table 3.
Summary of Material Classes Present in
NSWC Carderock Collection

Material	%
Lithics	1
Brick	20
Metal	75
Glass	4
Total	100

Human Skeletal Remains

There are no human remains from NSWC Carderock Division.

Records Storage

Associated documentation from NSWC, Carderock Division is stored in an acidic cardboard box. All documents are arranged by project number. Documentation is easily accessible and comprises approximately 0.83 linear feet.

Records are stored loose, bound, or in manila folders and documents consist of administrative, background, cartographic, excavation, photographic, audiovisual, and report records. Documents require complete rehabilitation to meet current archival standards.

Collections-Management Standards

There are no specific written collection management standards in place for NSWC Carderock collections.

All use of the material is coordinated through the base cultural resource manager as are any requests for information. The environmental office serves as the only repository for the materials. Curation does not receive any specific funding; any costs are handled using funds from other projects (e.g., historic building inventories).

Comments

1. Artifacts are not in archival-quality containers.
2. Documentation has not been duplicated and stored in a separate, secure location.

Recommendations

1. Place all artifacts in archival-quality primary containers and inert plastic secondary containers.
2. Label all primary containers using archival paper inserts and inert plastic sleeves.
3. Rehabilitate all artifacts. All artifacts need accession, catalog, and site numbers on their labels. These labels should be marked directly on the object with indelible ink and sealed with a clear coating to prevent loss of context if artifacts are separated from provenience information.
4. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.
5. Duplicate all paper records onto acid-free paper, and place in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes.
6. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation collection.
7. Make a duplicate copy of all the associated documentation, either on acid-free paper or archival microformat, and store these materials in a separate, fire-safe, secure location.

6

Naval Surface Warfare Center, Dahlgren Division

Dahlgren, Virginia

Facility Summary

Volume of Artifact Collections: 35 ft³

On base: 26.1 ft³

Off base: 8.9 ft³ are curated at the following facilities: 1.2 ft³ at R. Christopher Goodwin and Associates (see Chapter 11) and 7.7 ft³ at the Virginia Department of Historic Resources (see Chapter 19).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 2.09 linear feet

On base: 1.63 linear feet

Off base: 0.46 linear feet of associated documentation are being curated at the following facilities: Greenhorne and O'Mara (see Chapter 12);

R. Christopher Goodwin and Associates (see Chapter 11); and the Virginia Department of Historic Resources (see Chapter 19).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: NSWC Dahlgren Division does not have a dedicated archaeological repository.

Date of Visit: 12 September 1996

Point of Contact: Patricia Albert

Collections from archaeological projects conducted on NSWC Dahlgren Division are stored on base in Building 337. Artifacts total approximately 26.1 ft³ and are prehistoric and historic in nature. Additionally, 1.63 linear feet of associated documentation are also present. A building evaluation of the repository was conducted and is detailed below.

Assessment

Building 337 currently serves as the NSWC Dahlgren Division cultural resources curation facility (Figure 1). The building encompasses approximately 1293 ft². Building 337 originally served as a guard office, but recently has been allocated for storage, display, and office space, with a kitchen/break room in the building in addition to the storage and display areas.

Building 337 is a steel-frame structure with a concrete foundation. Exterior walls are concrete

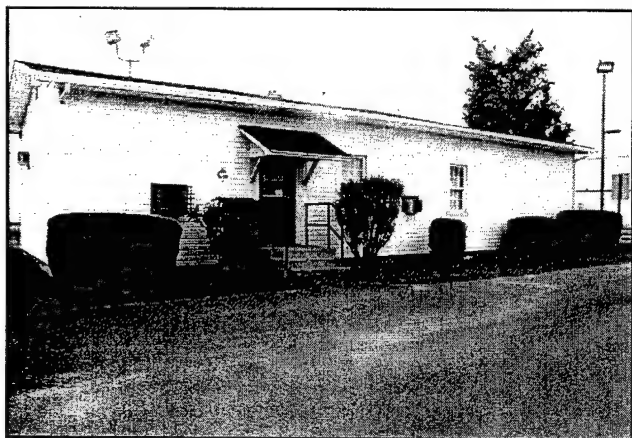


Figure 1. Exterior view of NSWC Dahlgren curation facility.

block, and the original roof is shingled. No cracks in the foundation or leaks in the roof have been noticed by staff members; however, the roof has been repaired in the past. Interior walls are made of plasterboard, and the ceiling is suspended acoustical tile. The floor is concrete with carpeting, and windows in the repository have blinds and aluminum window frames. According to staff, none of these windows have shown any evidence of water leakage.

Environmental Controls

The building has gas hot-water heat and two window air conditioning units. Temperature is usually set to staff preferences, but remains at 60°–70° F on most occasions. No humidity control is presently undertaken. Dust filters are present on the ventilation ducts, and the building is regularly (daily) maintained by a professional janitorial service. Lighting in the facility consists of nonfiltered fluorescent lights. All interior doors are wood, and exterior doors are metal. Building utility systems include heat, plumbing, and electricity. All utility systems are original equipment.

Pest Management

Pest maintenance occurs on a monthly basis, and no infestation problems of any kind have been noticed by base personnel.

Security

The facility possesses key locks on all interior doors and a combination lock on the main exterior door.

All windows have locks, and the area is patrolled by base security. As of this visit, Building 337 has not had any unauthorized entry.

Fire Detection and Suppression

Fire safety in building 337 consists of one fire extinguisher located in the center of the building. It was last inspected in September 1996.

Collections Storage Area

The collections storage area is structurally identical to the rest of the repository and shares common environmental, utility, fire detection and suppression, and security systems. An added security feature for the collections storage area is a solid metal vault door that leads to the artifact storage room. This door has a functional combination lock that is only accessed by the cultural resource manager. Maintenance and pest management schedules are the same as for the rest of the facility.

Artifact Storage

Approximately 26.1 ft³ of artifacts from NSWC Dahlgren Division are stored on the floor of the storage room and in a steel storage cabinet in various types of primary containers.

Primary Containers

The primary containers consist of acidic cardboard boxes (8) and archival boxes (9). Eleven of the boxes make use of a telescoping lid for security, whereas the remaining six use folding flaps.

Secondary Containers

Artifacts are packed in plastic zip-lock bags that are directly labeled with site name, site number, project, provenience, catalog number, investigator, and date. Materials consist of fire-cracked rock, shell, lithics, wood, rubber, prehistoric and historical-period ceramics, faunal remains, brick fragments, metal, and glass (Table 4). About 30 percent of the artifacts have been directly labeled in india ink, usually with site and/or project number. Only about 50 percent of the total collections have been cleaned. This collection will have to be partially rehabilitated to comply with 36 CFR Part 79.

Table 4.
Summary of Material Classes Present in
NSWC Dahlgren Collection

Material Class	%
Lithics	30.0
Shell	43.0
Ceramics	4.0
Wood	0.2
Rubber	0.2
Faunal Remains	11.0
Brick	3.0
Metal	5.0
Glass	4.0
Total	100.0

Human Skeletal Remains

There are no human remains from NSWC Dahlgren Division.

Records Storage

Records (1.63 linear feet of paper) are stored loose, bound, or in manila folders and consist of survey, excavation, and analysis records, as well as administrative, cartographic, excavation, photographic, and report records.

Collections-Management Standards

There are no specific written collections management standards in place for NSWC Dahlgren Division collections. All use of the material is coordinated through the base cultural resource manager, as are any requests for information. Building 337 serves as the only repository for the materials. Curation does not receive any specific funding; any costs are handled using funds from other projects.

Comments

Building 337 does not meet all of the minimal requirements of 36 CFR Part 79.

Recommendations

1. Place all artifacts in archival-quality primary containers and inert plastic secondary containers.
2. Label all primary containers using archival paper inserts and inert plastic sleeves.
3. Rehabilitate all artifacts. All artifacts need accession, catalog, and site numbers on their labels. These labels should be marked directly on the object with indelible ink and sealed with a clear coating to prevent loss of context if artifacts are separated from provenience information.
4. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.
5. Duplicate all paper records onto acid-free paper, and place in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes.
6. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation collection.
7. Make a duplicate copy of all the associated documentation, either on acid-free paper or archival microformat, and store these materials in a separate, fire-safe, secure location.

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7

Naval Surface Warfare Center, Indian Head Division

Indian Head, Maryland

Facility Summary

Volume of Artifact Collections: 14.2 ft³

On base: 0.8 ft³

Off base: 13.4 ft³ are curated at the following facilities: 0.5 ft³ at John Milner and Associates (see Chapter 17) and 12.9 ft³ at Maryland Historical Trust (see Chapter 16).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 1.53 linear feet

On base: 1.45 linear feet

Off base: 0.08 linear feet of associated documentation are being curated at John Milner and Associates (see Chapter 17).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: NSWC Indian Head Division does not have a dedicated archaeological repository.

Date of Visit: May 14, 1996

Point of Contact: Jeff Bossart

Assessment

Collections from the NSWC Indian Head Division are stored in two repositories. Records are stored in the Environmental Office (Figure 2), and the artifacts are kept on display in a small natural history museum that the base acquired for its biological collections (e.g., indigenous species of snakes). Building evaluations were conducted for both repositories and are detailed below.



Figure 2. Interior view of NSWC Indian Head documentation collections area.

Structural Adequacy

Repository 1

Building D-327, located at 1001 Strauss Avenue, currently serves as the NSWC Indian Head Division Environmental Office. The building encompasses approximately 3,544 ft² and formerly was used as a galley. All documentation from Indian Head Division archaeological projects is stored here.

Building D-327 is a wood-frame structure with a concrete foundation and vinyl siding on all exterior walls. The one-year-old roof is shingled. No cracks in the foundation, or leaks in the roof, have been noticed by staff members. The building functions primarily as office space. Interior walls are made of plasterboard, and the ceiling is suspended acoustical tile. All windows in the repository have blinds and aluminum window frames. According to staff, none of these windows have shown any evidence of water leakage. Most windows in the repository are original.

Repository 2

Building 2081, which is located off property, currently serves as the NSWC Indian Head Division natural history exhibit area. The building encompasses approximately 936 ft² and formerly served as a residence. All artifacts from NSWC Indian Head Division property are stored here. Artifacts are not from any particular project, but they represent materials that have been collected by various individuals and given to facility personnel over the years.

Building 2081 is a wood-frame structure, and has a cinder block foundation with concrete exterior walls. The roof is shingled and was renovated in 1992. No cracks in the foundation, or leaks in the roof, have been noticed by staff members. The building functions primarily as exhibit and storage space for natural history collections. Interior walls are made of plasterboard, as is the ceiling. The floor of the repository is wood, and all windows in the repository have blinds and wooden window frames. According to the staff, none of these windows have shown any evidence of water leakage. Most windows in the repository are original.

Environmental Controls

Repository 1

The building has zoned air conditioning and heat controls. Temperature is set to staff preferences. No humidity control is presently undertaken. Dust filters are present on the furnace ducts, and the building is regularly (weekly) maintained by a professional janitorial service. Lighting in the repository is fluorescent, and none of the lights possess filters. All interior doors are solid wood, and exterior doors are glass and metal. Building utility systems include heat, plumbing, and electricity. All utility systems are original equipment, but they are being updated as part of the building-wide construction and repair project in progress at the time of this assessment.

Repository 2

The building has central air conditioning and heat controls. Temperature is maintained at 70° Fahrenheit, and humidity is held to 47 percent. Dust filters are present on the ventilation ducts, and the building is maintained by a professional janitorial service on an as-needed basis. Lighting in the repository is fluorescent, and none of the lights use filters. All interior doors are wood panel, and exterior doors are steel. Building utility systems include heat, telephones, air conditioning, and electricity. All utility systems were updated in 1992.

Pest Management

Pest maintenance, for both repositories, occurs on an as-needed basis, and no infestation problems of any kind have been noticed by personnel at either repository.

Security

Repository 1

The repository possesses key locks on all interior doors and dead-bolt locks on all exterior doors. All windows have locks, and the area is patrolled by base security. As of this visit, Building D-327 has not had any unauthorized entry.

Repository 2

The repository possesses dead-bolt and key locks on all exterior doors. All windows have locks and bars.

As of this visit, Building 2081 has not had any unauthorized entry.

Fire Detection and Suppression

Repository 1

A fire alarm that is wired to the local fire department is present, as is a dry-pipe sprinkler system. Manual fire alarms and heat sensors are present throughout the repository. Because the building is still in a state of construction and repair, no fire extinguishers were available for inspection.

Repository 2

The repository possesses only smoke detectors, which are located throughout the facility. The exterior door is a fire door with a rating of 1.5 hours.

Collections Storage Area

Repository 1

One hundred twenty square feet of the NSWC Indian Head Division Environmental office is devoted to documentation storage. The collections area is structurally identical to the rest of the repository, and shares common environmental, utility, and fire detection and suppression and security systems. Maintenance and pest management schedules are the same as for the rest of the facility.

Repository 2

A small portion of the NSWC Indian Head Division natural history exhibit area is devoted to artifact display. The collections area is structurally identical to the rest of the repository, and shares common environmental, utility, and fire detection and suppression and security systems. Maintenance and pest management schedules are the same as for the rest of the facility. All artifacts are stored in wood-and-glass storage cases that are located in two corners of the exhibit area.

Artifact Storage

Approximately 0.8 ft³ of artifacts are stored in wood-and-glass exhibit cases in Repository 2. The cases stand seven feet high and have glass fronts and sides. They are triangular in shape and fit in two corners of the exhibit area. The cases are sealed shut with

screws. Artifacts consist of lithics and ceramics that are highly fragmented. Approximately 75 percent of the collection is comprised of chipped stone, with the remaining 25 percent consisting of pottery sherds. None of the materials have been washed or labeled. These materials have been turned over to base personnel over the years, having been collected from base property by amateur collectors.

Records Storage

Associated documentation from NSWC Indian Head Division is stored in a metal, letter-sized filing cabinet in Repository 1. All documents are arranged by project number. No overpacking of any drawers exists, and documentation is easily accessible.

Paper Records

Documents pertaining to NSWC Indian Head Division are stored loose, bound, or in acid-free folders. All folders have been directly labeled with project number. Documents consist of administrative, background, cartographic, and analysis/report records (Table 5).

Table 5.
Summary of Records Present in
NSWC Indian Head Collections

Record Type	Linear Feet
Administrative	0.52
Background	0.06
Survey	0.04
Excavation	0.04
Report	0.75
Photographic	0.02
Cartographic	0.02
Total	1.45

Photographic Records

The only photographic records that exist are contact sheets from a particular project. These are stored in one of the acid-free folders.

Collections-Management Standards

NSWC Indian Head Division is not a professional curation facility and has no written curation policies. Personnel are responsible for maintaining the

collections and for ensuring that records and artifacts are accessible and useful. All requests to examine the materials must pass through the cultural resource manager, and only legitimate researchers are given access. Artifact catalogs are maintained, and a database of information is available for each collection.

Comments

Environmental controls are in place throughout both repositories.

Recommendations

1. Label all artifacts on display in indelible ink with a pertinent catalog number in the event of removal from display.
2. Create a master catalog of material for present and future exhibit purposes.
3. Rehabilitate all artifacts. All artifacts need accession, catalog, and site numbers on their labels. These labels should be marked directly on the object with indelible ink and sealed with a clear coating to prevent loss of context if artifacts are separated from provenience information.
4. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.
5. Duplicate all paper records onto acid-free paper and place in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes.
6. Arrange associated documentation according to modern archival procedures and create a finding aid for the documentation collection.
7. Make a duplicate copy of all the associated documentation, either on acid-free paper or archival microformat, and store these materials in a separate, fire-safe, secure location.

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Naval Training Facility, Bainbridge

Port Deposit, Maryland

Facility Summary

Volume of Artifact Collections: 13.1 ft³

On base: None

Off base: 13.1 ft³ of prehistoric and historic artifacts are located at the Maryland Historical Trust (see Chapter 16).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 0.25 linear feet

On base: None

Off base: 0.25 linear feet of associated documentation are located at the Maryland Historical Trust (see Chapter 16).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: Naval Training Facility, Bainbridge does not have a dedicated archaeological repository.

Bibliography

Hughes, Richard B., and Susan A. Lebo

1982 *A Cultural Resources Survey of the Bainbridge Naval Training Center, Port Deposit, Maryland, Volume II: Archaeological Resources*. Maryland Historical Trust Manuscript Series Number

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Maryland Historical Trust

n.d. National Register of Historic Places Inventory Nomination Form: Snow Hill Archaeological Site.

9

U.S. Naval Academy

Annapolis, Maryland

Facility Summary

Volume of Artifact Collections: 54.1 ft³

On base: None

Off base: 54.1 ft³ are curated at the following facilities: 24.5 ft³ at Historic Annapolis Foundation and 29.6 ft³ at KCI Technologies (see Chapters 13 and 15, respectively).

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 3.53 linear feet

On base: None

Off base: 3.53 linear feet of associated documentation are curated at the following facilities: 0.9 linear feet at Historic Annapolis Foundation and 2.63 linear feet at KCI Technologies (see AChapters 13 and 15, respectively).

Compliance Status: Records will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this facility.

Status of Facility Repository: The U.S. Naval Academy does not have a dedicated archaeological repository.

Bibliographic References: None located.

The College of William and Mary Center for Archaeological Research

Williamsburg, Virginia

Repository Summary

Volume of Artifact Collections: 11.7 ft³

Compliance Status: Collections require partial rehabilitation to meet federal guidelines. They are archivally curated in zip-lock plastic bags within acid-free boxes. However, the wood shelves used as storage units should be replaced with enamel metal shelves.

Linear Feet of Records: 0.6 linear feet

Compliance Status: The photographic records are archivally curated. Paper records require complete rehabilitation to comply with existing

federal guidelines and standards for archival preservation. Documentation should be removed from acidic file folders and placed in acid-free archival quality secondary containers. In addition, copies of records should be produced on acid-free paper and stored in a separate, secure location.

Human Skeletal Remains: No human skeletal remains associated with military collections are stored at this repository.

Status of Curation Funding: Curation is financed through cultural resource management contracts.

Date of Visit: May 3, 1995

Points of Contact: Don Linebaugh and Dennis Blanton

Assessment

The collections and associated records are housed in the basement of a four and one-half story dormitory building on the College of William and Mary campus (Figure 3). The basement repository includes six major areas encompassing approximately 10,000 ft². There is a separate field equipment storage room, a drafting/report publication area, an archives storage area, an artifact collections storage area, a photograph processing/large-scale map storage area,



Figure 3. Exterior view of the William and Mary curation facility.

and a laboratory/collections processing area. Additionally, there are an archives storage area (Room 51) measuring approximately 200 ft²; a photograph processing/oversized map storage area (Room 50), encompassing approximately 100 ft²; and a collections storage area (Room 54), comprising approximately 600 ft².

Structural Adequacy

This repository was constructed in the late 1930s as a dormitory with the three floors above grade still being used for this purpose. The building has a concrete foundation (covered with tile in the storage areas), concrete block walls below grade, and concrete block walls with a brick facade above grade. The roof consists of slate tiles and is original to the building. Interior walls in the basement are also concrete block, and the ceiling is of poured concrete. Plumbing and electrical systems have been previously updated, and the heating system has been renovated within the last year. Overhead pipes are in close proximity to fluorescent lights in all rooms, but there have never been any problems with leaking.

The only differences in structural adequacy between the three storage areas are the number of doors and windows in the rooms. The archives storage area (Room 51) contains one east-facing window at ground level. The window is approximately 2 x 3 feet, has a wood frame, and is covered with plywood on the interior. Two interior wood panel doors exist. The west-facing door exits into the hallway, and the south-facing door separates the photograph storage from paper records storage.

There is one interior, west-facing, wood panel door to the photograph processing/oversized map storage area (Room 50) that exits into the hallway. There are no windows in this room.

Two interior, east-facing wood panel doors exist in the collections storage area (Room 54). Both of these doors exit into the hallway. Additionally, four windows with wood frames measuring approximately 3 x 3.5 feet are present on the west wall of the room. All windows are at ground level, and none have shades.

The archives storage area (Room 51) is at approximately thirty percent capacity in terms of records storage, and the photograph processing/large-scale map storage area (Room 50) is filled to approximately five percent of its capacity. The

collections storage area (Room 54), however, is filled to approximately eighty percent capacity. Although this building is structurally sound and functions well as a temporary collections and archives storage repository, it will need further work if it is to continue to house archaeological collections and associated records.

Environmental Controls

Climatic conditions and controls are the same in each of the three storage areas. Central air conditioning and a gas-fired hot water boiler control the temperature. A digital thermo-hygro reader monitors the humidity in the collections storage area (Room 54), whereas a commercial dehumidifier is used for humidity control. The only visible sign of humidity fluctuations is in the collections storage area (Room 54) where the assessment team noticed paint peeling from the ceiling. Current temperature and humidity readings in the collections storage area are 73° F and 62% relative humidity. Light is provided by fluorescent tubes in the archives and collections storage areas, and incandescent bulbs illuminate the photograph processing/oversized map storage area (Room 50). Standard furnace and air conditioning filters are the only preventive measures against dust. The storage areas are cleaned daily by the janitorial staff of the college.

Pest Management

There is no integrated pest management program at this repository. However, the college contracts out for an annual inspection and treatment if needed. At the time of the visit by the assessment team there was no evidence of pest infestation.

Security

The exterior door to the repository is secured by both key and dead-bolt locks, and there is controlled access to the basement area. Although the three floors above the Center for Archaeological Research function as dormitories, there is no inside access to the basement area from the floors above. The single window in the archives storage area (Room 51) has a simple window lock and is covered with plywood. The doors separating the three storage areas from the hallway are all secured with key locks. The four

double-hung wood sash windows in the collections storage area are half below grade and half above. They are multipaned, contain simple window locks, and appear to be painted shut, but there are no interior or exterior security bars. Collections are stored in close proximity to these windows, posing a security risk. Unauthorized entry occurred between 1990 and 1991, when a window air conditioning unit in the collections processing area was removed and computer equipment was stolen. When the heating and cooling systems in the facility were renovated a few years ago, all of the window air conditioning units were removed for security purposes.

Fire Detection and Suppression

Smoke detectors wired into the fire department and manual fire alarms located in the hallway outside the three storage areas represent the only means of fire detection in the repository. The assessment team also noticed one fire extinguisher in the hall outside the three storage areas.

Artifact Storage

Storage Units

Approximately 11.7 ft³ of artifacts from MCB Quantico are stored at the College of William and Mary (Table 6). Boxed artifact collections are stored on unlabeled varnished wood shelving units each measuring 4 x 0.8 x 6.7 feet (l x w x h). There are six shelves per unit and usually two boxes per shelf.

Table 6.
Summary of Material Classes Present in
EFA Chesapeake Collections at the College of
William and Mary Center for Archaeological
Research

Material Class	%
<i>Prehistoric</i>	
Lithic	16.0
Ceramic	0.5
Faunal	0.5
Shell	1.0
<i>Historical Period</i>	
Glass	19.0
Metal	20.0
Ceramic	24.0
Brick	19.0
Total	100.0

There are no signs of overstacking because boxes can only be stacked one high, but several of the shelves tend to lean and require bracing.

Primary Containers

Primary containers consist of acid-free boxes with a 1.3 ft³ storage capacity and wood drawers. The boxes are folded in construction, although one corner is glued. They have telescoping lids and built-in handles. Labels are computer-printed on acid-free paper and taped to the fronts of the boxes. Label information includes project name, box content, site number, date, and box number.

Secondary Containers

All of the artifacts are curated in small 2-mil polyethylene plastic zip-lock bags nested within larger ones. The larger (exterior) bags are not labeled. However, preprinted labels of acid-free paper are inserted inside the smaller (interior) bags. Label information is written in marker and consists of project name, site number, bag number, provenience, date, comments, and excavator's initials.

Laboratory Processing and Labeling

All of the artifacts have been cleaned and sorted by material class, or material class within provenience, but none have been labeled.

Human Skeletal Remains

No human skeletal remains are included in the military collections housed at the Center for Archaeological Research.

Records Storage

Approximately 0.6 linear feet of documentation associated with Navy facilities are stored at the Center for Archaeological Research. Records are stored in the archives storage area (Room 51), and the photograph processing/oversized map storage area (Room 50).

Paper Records

Original paper records, which are arranged by project number within year, are stored in several unlocked letter-size, enamel metal file cabinets located against the north wall of the archives storage room. The dimensions of a single file cabinet are 2.3 x 1.2 x 4.7 feet (l x w x h). Paper tags with computer-generated label information are contained in metal tag holders on the fronts of the file drawers. Label information consists of the project numbers included in specific drawers. A three-ring binder located on top of one of the file cabinets contains the archives index. Records are crossreferenced in this index by three methods: project number and name, city/county, and agency/client name. Acidic manila file folders with adhesive labels serve as secondary containers for paper records. Label information is typed and includes project number and name. Each project folder contains a sheet listing the contents of the specific folder. The records are in good shape but contain contaminants such as staples. Record types include administrative, background, survey, excavation, and analysis. None of the records have been duplicated.

Photographic Records

Photographic records include black-and-white 3.5-x-5-inch prints, slides, and negatives. Photographic records are arranged by year and identification number. A photographic record index overview lists the types of photographic records available for each project, in addition to the identification numbers for these records.

Prints are housed in a series of six enamel metal file drawer units stacked on top of each other. Each drawer unit measures 1.6 x 1.3 x 0.6 feet (l x w x h), making the total height of the unit 3.6 feet. Each drawer has a laser-printed tag listing photograph numbers contained within a metal tag holder. The photographs are curated in 5.5-x-5-inch wide acid-free folders with adhesive labels. Label information is typed and includes project name, year, and photograph numbers included within specific folders (e.g., 92-1042 to 1044). Photographs are directly labeled in pen with the specific photograph numbers.

Slides are stored in a series of 10 enamel metal file drawer units stacked on top of each other. Each drawer unit measures 1.3 x 1.0 x 0.4 feet (l x w x h), making the unit four feet tall. Drawers have metal tag holders containing laser-printed paper tags that list the ranges of slide numbers included in each drawer. Slides are stored in the original cardboard slide boxes within the drawers. The boxes contain adhesive labels stating slide numbers. The slides themselves are directly labeled with slide number in pen.

Negatives are stored in archival sleeves within plastic three-ring binders on painted shelves built against the east wall of the room. The exterior of each plastic binder contains a vinyl adhesive label produced by a hand-held labelmaker. Binder label information includes year. Each negative sleeve is directly labeled in marker with date, project name, and project number.

Project Reports

Camera-ready versions of final reports are stored in legal-size file cabinets in the archives storage room. They are arranged in alphabetical order by project and contained within acidic manila file folders. File drawers are labeled alphabetically, and file folders contain adhesive folder labels with typed information listing project name.

Maps and/or Oversized Documents

Maps are stored in Room 50, and consist of oversized site maps and maps drafted on Mylar®. A log exists for these maps that is arranged by year and drawing number. This log also provides a description of each drawing. These oversized maps/drawings are stored in a five-drawer wooden map flat measuring 4.5 x 3.5 x 1.3 feet (l x w x h) that is located on top of a large wooden table. A photocopy stand sits on top of the map flat. Individual map drawers are alphabetically arranged. Within the map drawers, the Mylar® drawings are contained in large folders constructed of acid-free paper. Adhesive labels with project name written in black marker are stuck to the outsides of the large acid-free folders. All of the maps are in good condition.

Collections-Management Standards

Registration Procedures

Accession Files

When collections and records arrive they are assigned a number that includes the year and project number (e.g., 92-1046).

Location Identification

The location is provided for the storage area in general but not for the location of the record or artifact collection within the storage area.

Cross-Indexed Files

The files are indexed by project number, and this can be cross indexed between the project, collection, and photograph files.

Published Guide to Collections

There is no published guide to the collections, other than the project reports that are produced.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is employed.

Computerized Database Management

A Paradox™ database management program is employed to manage the collections and records. Backups of these records are made each time the program is used/edited, and one disk copy is stored in the Center for Archaeological Research offices and one in the laboratory.

Written Policies and Procedures

Minimum Standards for Acceptance

None.

Curation Policy

The information is available but has not been compiled into a single document. Information regarding the procedures undertaken to accession and organize a collection is described in paragraph form in final reports.

Records-Management Policy

The information is available but has not been compiled into a single document. Information regarding the care of associated records is described in paragraph form in final reports.

Field-Curation Guidelines

There is a document that describes how artifacts are to be treated in the field.

Loan Procedures

A standardized loan form is used that specifies such things as the length of the loan and how the artifacts must be cared for while on loan.

Deaccessioning Policy

None.

Inventory Policy

There is an inventory policy in place.

Latest Collection Inventory

Because the Center for Archaeological Research is not a long-term collection repository, a comprehensive inventory has never been carried out. Collections are processed, inventoried, and then sent to a facility that will care for them long term.

Curation Personnel

The full-time curatorial staff is made up of two individuals. Debbie Davenport, the senior laboratory technician, is the full-time curator of archaeological collections. David Lewes, senior draftsman/editor, is responsible for the associated records. Don Linebaugh and Dennis Blanton are the codirectors of the Center.

Curation Financing

Curation is funded through cultural resource management contracts.

Access to Collections

Access to collections is controlled by the curatorial staff. Anyone wishing access is required to contact one of them. Researchers wishing to have access to collections must first submit a written letter of intent.

Collections are not to be viewed without the supervision of the senior laboratory technician.

Future Plans

Staff view education, maintenance of collections, and research as the primary responsibilities associated with the collections. There are plans for upgrading the curation program that include slowly replacing the wood shelving units with steel ones, purchasing new cabinets as needed, and eventually installing temperature and humidity controls. Even with these plans, the staff emphasize that the Center for Archaeological Research is only a temporary storage repository for the collections on their way to a final curation repository.

Comments

1. The Center lacks adequate fire detection and suppression systems.
2. Although there have been no past episodes of the overhead pipes leaking in the collections storage area, the steam release valves are located directly above the fluorescent lights, creating a potential fire hazard.
3. Humidity is monitored with a digital thermo-hygro reader and partially controlled with a commercial dehumidifier. However, paint is peeling off the ceiling in sheets, most likely due to humidity fluctuations.
4. Collections are stored in close proximity to ground-level windows with no shades and only simple locks, creating a security risk.
5. Artifact collections are curated in acid-free boxes and archival quality zip-lock bags. However, they are stored on varnished wood shelving units that can, over time, emit harmful acids through off gassing. Off gassing increases at higher temperatures and at relative humidity levels above 80%.
6. Associated records are well organized, but only the photographic prints and negatives are archivally preserved. None of the records have been duplicated.
7. There is no evidence of pest infestation, but there is no integrated program for pest management.

Recommendations

1. Upgrade the fire detection and suppression systems to include smoke alarms and multiple fire extinguishers. If possible, install a sprinkler system.
2. If possible, move the electrical lines and/or light fixtures from under the steam pipes and release valves as a further fire prevention measure.
3. If it is not feasible to install an HVAC system to monitor and control temperature and humidity, purchase an additional commercial dehumidifier for the collections storage area.
4. Collections should not be stored directly in front of the windows. Purchase some type of window coverings (e.g., commercial shades, or plywood coverings) for the windows in the collections storage area to prevent exposure of collections to ultraviolet light and fading of box labels. Additionally, place bars or some other type of deterrent over the exteriors of the windows as a security measure.
5. Part of the future plans of the Center include replacing the varnished wood shelving units with metal shelving units. This should be a priority before the acids in the wood shelves destroy the archival containers on them. As an interim measure, line the wood shelves with an inert material.
6. Duplicate all paper records on acid-free paper or microfilm, and produce duplicate copies of the photographic records. Store copies at a separate and secure location. The original associated records should accompany the artifact collections to a long-term curation facility, and copies of these records should remain at the Center for Archaeological Research.

7. Implement a pest management program that includes monitoring and control.

8. Apply adhesive plastic label holders containing acid-free labels to the fronts of artifact boxes (or adhere small zip-lock plastic bags).

Editor's note: Artifacts and records have been moved from the dormitory and are now located in the Common Glory Laboratory. This repository includes climate controls for artifacts and records.

Collections are now better secured with coded alarm systems and increased controlled access. Artifacts are now stored on metal shelving units and records are in metal map cases or filing cabinets.

Photographs are stored in archival binders. The lack of windows in the collections area now prohibits exposure to ultraviolet light. Pests are no longer problematic, and contaminants are removed from all accessioned documents. Reports are now stored in archival boxes, and maps and drawings are arranged by project.

R. Christopher Goodwin and Associates

Frederick, Maryland

Repository Summary

Volume of Artifact Collections: 1.2 ft³

Compliance Status: Artifacts are boxed according to federal guidelines and standards for curation.

Linear Feet of Records: 0.19 linear feet

Compliance Status: Documentation will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. Records should be removed from the

containers in which they are currently housed and placed in acid-free cardboard boxes.

Human Skeletal Remains: Goodwin and Associates is not currently curating any human skeletal remains recovered from EFA Chesapeake facilities.

Status of Curation Funding: Curation of collections is funded through contract budgets.

Date of Visit: February 7, 1995

Points of Contact: Christopher Goodwin and Terry Reimer

R. Christopher Goodwin and Associates is an archaeological consulting firm that has offices in Frederick, Maryland; New Orleans, Louisiana; and Tallahassee, Florida. The Frederick, Maryland, office has conducted work at the NSWC Dahlgren. The firm currently holds approximately 1.2 ft³ of artifacts and 0.19 linear feet of records from this installation. The firm does not view itself as a long-term curation facility but merely as a temporary curation facility while artifacts await acceptance to the respective state repositories.

Assessment

The Frederick, Maryland, office is located in a renovated house with a recent addition containing the collections storage area (Figure 4). The house contains over 6000 ft² of floor space and consists mostly of offices. However, there is also an artifact holding area, an artifact washing area, an artifact processing lab, and a temporary artifact storage area.

Structural Adequacy

Originally built in 1920 as a residence, the house was renovated about five years ago. The newest portion, an addition to the rear of the house, was



Figure 4. Exterior view of the Goodwin and Associates Frederick, Maryland, office.

completed at about the same time as the renovation. The foundation of the facility is composed of concrete block, and the roof is tin. Exterior walls for the older portion are asbestos shingle and corrugated metal for the newer addition. The roof of the older portion of the house has been replaced in the past 10 years, whereas the roof of the newer addition was replaced in 1993. Both the foundation and the roof appear to be structurally sound and free of cracks and leaks.

The facility contains a number of floors. In the older portion, there are three above grade and one below grade. In the addition, there are two above grade. There are multiple doors to the exterior, the closest to the collections storage area being made of glass. Within the interior, there are multiple doors, and two doors separate the collections storage area from the remainder of the facility.

All windows have shades and either wood or aluminum frames. All windows appear to be sound and free of cracks or leaks.

The collections storage room, located in the new addition, contains approximately 280 ft² of floor space. The area has a carpeted concrete floor, plasterboard walls, and a suspended acoustical-tile ceiling. The room contains two shadeless windows.

Environmental Controls

The Goodwin and Associates facility has different temperature controls for the older house and the recent addition. The front, or older portion has

window air conditioning units and central oil heating. The addition, containing the collections storage area, has an electric heat pump for cooling and heating, with a back-up electric heat system. Dust filters are present on the furnace, and there is a weekly cleaning service for the facility. Humidity is not monitored or regulated.

The targeted temperature in the collections storage area is 68° F. Lighting in the room consists of fluorescent lights with plastic shields, and no filters. The storage area is maintained weekly by a professional cleaning company.

Pest Management

The facility does not have an integrated pest management system, but there were no signs of insect or rodent problems at the time of the visit. Generally, if a problem develops, it is addressed at that time. The most recent extermination work was to eradicate a problem with ants.

Security

Security measures at Goodwin and Associates include key locks, dead-bolt locks, and simple window locks, as well as an intrusion alarm system with ubiquitous interior motion detectors. A private security company continually monitors the system. Locks and intrusion alarms are located on all doors to the exterior. Windows are numerous and are protected by only simple window locks; there are two such windows in the collections storage area. One door in the causeway between the older house and the most recent addition to the repository is composed of glass. In addition, the two hollow-core wood doors separating the collections storage area from the rest of the repository have no locks. There have not been any episodes of unauthorized access in the past.

Fire Detection and Suppression

In addition to smoke detectors, the facility maintains a total security and fire detection system. It is composed of zone detection systems that the fire department monitors 24 hours a day. One zone covers the collections storage area, and all fire detection zones are connected to the central alarm. However, there is no fire suppression system for the

facility. No sprinkler systems are in place at the facility, but there are two fire extinguishers.

Artifact Storage

Storage Units

Archaeological collections and documentation are stored on standard enamel metal shelving units measuring approximately 1.3 x 3.0 x 5.8 feet (l x w x h). Each unit is five shelves high, and boxes are stacked one-to-two high.

Primary Containers

Primary containers are acid-free boxes with a capacity of 1.2 ft³. Each box has a telescoping lid and is glued and folded in construction. None of the boxes exhibit any damage. Each box is labeled by a preprinted, acid-free paper tag placed in a zip-lock bag and adhered to the front of the box. Pertinent information is inscribed onto the label in black marker; label information is legible and generally includes project name, contents of the box, bag numbers, site numbers in question, and remarks. One box is a variant—an acid-free envelope folder with a folding lid and a capacity of 0.5 ft³. Labels and accompanying information are the same as the acid-free boxes. Collections are arranged by project on the storage units. NSWC Dahlgren materials consist of lithics (75%) and brick (25%).

Secondary Containers

Secondary containers consist entirely of 2- and 4-mil zip-lock bags. Containers are directly labeled in black marker, generally with site number, project, and provenience. Within provenience, artifacts are sorted by artifact class and are separately bagged in tertiary zip-lock containers. Secondary containers are arranged neatly, placed vertically into the acid-free boxes.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, and approximately ninety percent of the artifacts has been labeled. Artifacts are labeled directly with india ink with information consisting of site number and artifact number. Provenience and artifact number for

unlabeled artifacts are written on acid-free tags that are placed in the secondary containers. All artifacts are sorted by provenience and then by material class.

Human Skeletal Remains

Goodwin and Associates does not curate any human skeletal remains from NSWC Dahlgren.

Records Storage

Goodwin and Associates maintains a total of 0.19 linear feet of records from NSWC Dahlgren (0.17 linear feet of paper records and 0.02 linear feet of report records). Records are stored in the same storage area and primary containers as the artifacts, with the records generally placed on top. Original copies of the documentation are filed in an off-site storage facility.

Records are generally bound and many of the records have been photocopied onto archival-quality acid-free paper and organized by project. Bound material is stored in plastic three-ring binders, and label information includes project name and copy number. The paper records are in good condition.

Collections-Management Standards

Registration Procedures

Accession Files

There is no formal accessioning of materials upon receipt. Goodwin and Associates does keep a field specimen list that is organized by lot number.

Location Identification

There is a list that identifies the lab and storage facility in which materials from a project may be stored.

Cross-Indexed Files

None.

Published Guide to Collections

There is no published guide to the collections other than the project report.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used. In addition, sites are organized within projects by name/location.

Computerized Database Management

Goodwin and Associates uses dBASE III and IV to manage its files. Back-up copies are kept on disk and are updated any time the files are edited.

Written Policies and Procedures

Minimum Standards for Acceptance

Written minimum standards for acceptance are provided for every state in which Goodwin and Associates works.

Curation Policy

There is a comprehensive plan for curation, but it is an outdated document. The policy addresses the receipt, processing, and use of materials but not the future preservation of those materials.

Records-Management Policy

Guidelines and standards for the curation of associated documentation are defined by the policies of the states in which a project takes place.

Field-Curation Guidelines

There are none; however, a field specimen list is created from a lot number list assigned in the laboratory.

Loan Procedures

There are no written loan procedures. If a researcher requests a loan of materials, Goodwin and Associates contacts the owner of the material and the final repository, and an agreement is reached.

Deaccessioning Policy

None.

Inventory Policy

There is no inventory policy in place, but there is an initial inventory of field specimens that is kept and

checked until the artifacts and documentation are deposited at the final repository.

Latest Collection Inventory

Because Goodwin and Associates is not a long-term curation facility, but transfers collections to state repositories for long-term care, collections are constantly being inventoried.

Curation Personnel

Ms. Terry Reimer is a part-time curator for the archaeological collections. Although Ms. Reimer is the person responsible for curation, at least 12 field crew archaeologists in the office of 45 share some duties for curation.

Curation Financing

Curation is financed through archaeological contracts.

Access to Collections

Collections are readily accessible, but access is controlled by Ms. Reimer.

Future Plans

As a consulting firm, the recovery of artifacts still takes higher priority than curation, but there are tentative plans to add more space, especially as the firm expands to work in new states.

Comments

1. Goodwin and Associates stores artifacts in acid-free boxes. Much of the associated documentation has been photocopied onto acid-free paper and stored in the same containers as the artifacts. Documentation is bound in three-ring plastic binders.
2. Photographic materials are stored in archival-quality polyethylene sleeves.
3. The facility does not have a sprinkler system for the quick resolution of fire hazards. The facility does have an integrated fire detection system that is continually monitored by the fire department.

4. The facility operates an integrated intrusion-alarm system anchored by entry and motion sensors.
5. There are many windows on the ground floor, two of which are in the collections storage area. These windows pose a security risk because they possess only simple locks.
6. Two exterior doors across and down the hall from the collections storage area are made of glass and thus represent a security risk.
7. The two doors leading into the collections storage area are constructed of hollow-core wood and do not have locks.
8. There is no way to monitor or control humidity within the collections storage area.
2. Install multiple fire extinguishers throughout the repository as soon as possible. Funds permitting, install a sprinkler system. While the fire detection system linked to the fire department is important, collections can be lost during fire department travel time.
3. Replace the two doors leading to the collections storage area with either metal or solid-core wood doors, and add a series of locks.
4. Replace the glass door leading to the exterior. Metal or solid-core wood doors with multiple locks are more appropriate.
5. If it is not feasible to completely close off the windows in the collections storage area, add more secure locks. In addition, add blinds to the windows for security and environmental stabilization.

Recommendations

1. Remove associated documentation from the artifact primary containers and place in separate archival-quality containers. In addition, remove documents from three-ring plastic binders and store loose in acid-free folders.

Editor's note: In 1995 R. Christopher Goodwin and Associates moved their Frederick office into a new facility. The renovated office building addresses certain shortcomings present in the previous facility and greatly enhances the curatorial status of the collections.

Greenhorne and O'Mara, Inc.

Greenbelt, Maryland

Repository Summary

Volume of Artifact Collections: 1.3 ft³

Compliance Status: Artifacts will require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Artifacts should be labeled directly with accession number or catalog number, according to standard curatorial practices.

Linear Feet of Records: 0.72 linear feet

Compliance Status: Documentation will require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Loose records should be placed in acid-free

folders free of staples and paper clips, and stored in the current acid-free boxes. Additional copies of the documentation should be produced on acid-free paper and stored in a separate, secure location.

Human Skeletal Remains: Greenhorne & O'Mara, Inc. is not currently curating any human skeletal remains recovered from any military installations.

Status of Curation Funding: Curation of archaeological collections is financed as line items in contracts.

Date of Visit: February 10, 1995

Points of Contact: Bruce McGranahan and Bernard Means

Greenhorne and O'Mara is an architectural and engineering firm with an environmental services division. Archaeology is among the services provided by the firm. The offices are located in Greenbelt, Maryland, a suburb of Washington, D.C.

Assessment

The Greenhorne and O'Mara Building (Figure 5) exceeds 80,000 ft² of office space and has a total of

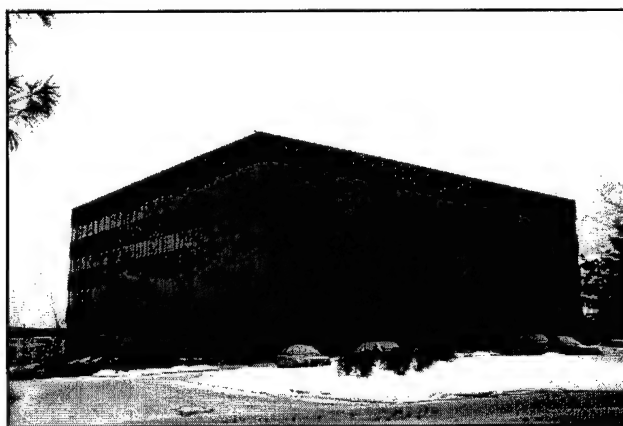


Figure 5. Exterior view of the Greenhorne and O'Mara Building.

five floors. Within that space, the archaeology sections account for approximately one-quarter of one floor (3000 ft² of space). The archaeology space includes an artifact holding area, artifact washing area, artifact processing lab, temporary storage area, supplies storage area, photography lab, and offices. The collections storage area measures 400 ft² and houses some of the aforementioned artifact holding, washing, processing, and temporary storage areas.

Structural Adequacy

The building was constructed in the early 1980s specifically for Greenhorne and O'Mara. The foundation is composed of concrete, with brick exterior walls. The roof is built-up asphalt and is original to the structure. The building is solid, with no cracks or leaks. There have been no major renovations, but interior partition walls have been frequently rearranged. There are multiple exterior doors and windows.

The collections storage area has a concrete floor covered with tile, and interior walls are composed of plasterboard. The ceiling is composed of suspended acoustical tiles. There are four exterior windows located in the collections storage area, which is located on the fourth floor of the Greenhorne and O'Mara Building. Window frames are steel, with no evidence of water leaks. There are two wood panel doors leading to the exterior of the collections storage area. One leads to a set of offices, and the other leads to a small storage room set apart from the offices by yet another wood panel door. The collections storage area is filled to approximately ninety percent capacity with archaeological materials.

Environmental Controls

The Greenhorne and O'Mara Building has heat and air conditioning, but no humidity monitoring or control. The environmental systems are equipped with dust filters. Windows in the collections storage area are equipped with shades, and lighting is fluorescent, non filtered. The building, including the collections storage area, is regularly maintained by a full-time maintenance engineer and is regularly cleaned by a janitorial service. The collections storage area periodically contains hazardous chemicals such as acetone. The storage area is

equipped with a fume hood and hose directly linked to the exterior, an eye wash station, and a flammable liquid storage cabinet.

Pest Management

Greenhorne and O'Mara employs a professional pest management company to monitor and control for insects and rodents twice a month. At the time of the assessment there were no visible signs of pest infestations.

Security

Security measures include key locks and dead-bolt locks on all exterior doors and window locks on exterior windows. An intrusion alarm, including motion detectors covering exterior doors and access hallways, is also present. Access to the building during business hours is controlled by the staff. The collections storage area is secured by key and dead-bolt locks on the doors opening into the offices.

Fire Detection and Suppression

Fire detection for the repository consists of manual fire alarms and fire alarms wired to the local fire department. Fire suppression consists of a sprinkler system and fire extinguishers. There are no fire extinguishers located in the collections storage area.

Artifact Storage

Storage Units

Storage units (Figure 6) for the archaeological materials consist of baked enamel metal uprights with particle board shelves, measuring 2 x 4 x 4.5 feet (l x w x h). All artifacts present (1.3 ft³) were recovered from Naval Communication Detachment, Cheltenham (Table 7).

Primary Containers

The primary container consists of one acid-free cardboard box with a telescoping lid. The exterior tag is an acidic yellow paper sheet inserted in a plastic zip-lock bag and attached to the cardboard box (Figure 7). The paper tag is labeled with the facility name.

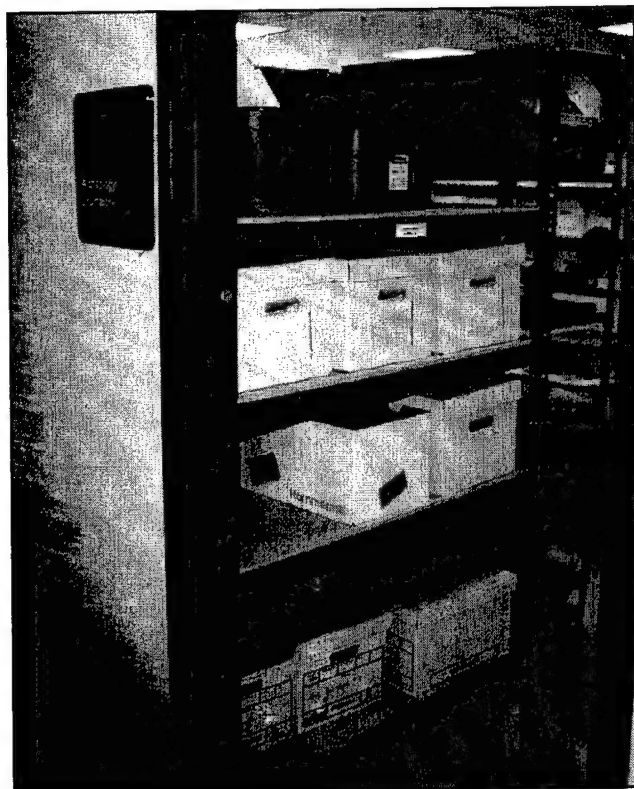


Figure 6. Shelving units in Greenhorne and O'Mara collections area.

Table 7.
Summary of Material Classes Present in the
NCD Cheltenham Collections at
Greenhorne and O'Mara

Material Classes	%
<i>Prehistoric</i>	
Lithic Artifacts	10
<i>Historical Period</i>	
Ceramic	15
Metal	5
Brick	70
Total	100

Secondary Containers

Secondary containers consist entirely of plastic zip-lock bags, labeled directly in marker with the facility name, phase, provenience, and lot number. Acid-free paper labels with the same information are also inserted in the secondary containers.

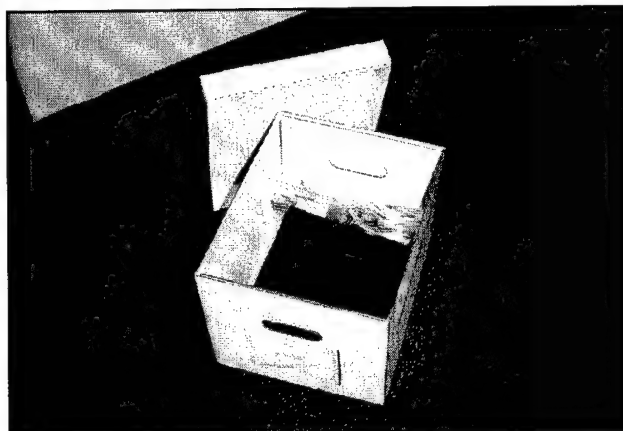


Figure 7. Primary container for artifacts and records.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, but none have been labeled. All of the artifacts are sorted by material class.

Human Skeletal Remains

Greenhorne and O'Mara does not currently curate any human skeletal remains recovered from EFA Chesapeake facilities.

Records Storage

Greenhorne and O'Mara is currently curating 0.72 linear feet of documentation associated with archaeological projects conducted on Naval Communication Detachment, Cheltenham and NSWC Dahlgren (Table 8). Storage units for records are the same as those for artifacts: baked enamel metal uprights with particle board shelves. Primary containers for the records consist of two acid-free cardboard boxes, each measuring 1.3 ft³ in volume. Records for Cheltenham Naval Radio Station are

Table 8.
Summary of Records Present in EFA Chesapeake
Collections at Greenhorne and O'Mara

Type	NDC Cheltenham	NSWC Dahlgren
Paper	0.38	—
Report	0.04	—
Photographs	0.13	0.17
Total	0.55	0.17

stored in the same box as the artifacts. Secondary containers consist primarily of blue vinyl plastic binders, unlabeled. However, there are several bound reports, and a small number of loose sheets of paper.

Collections-Management Standards

Registration Procedures

Accession Files

Collections are not accessioned; Greenhorne and O'Mara, is only a temporary curation facility.

Location Identification

The location of artifacts within the repository is identified in project files.

Cross-Indexed Files

Files are not cross indexed.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used for site-record administration.

Computerized Database Management

Greenhorne and O'Mara uses dBASE IV for database management. The software is available from a network, and records are stored on hard drives and on disk.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no written standards for the acceptance of materials.

Curation Policy

There is no written curation policy that addresses receipt, processing, and use of materials. The firm does follow guidelines for these activities. Specific guidelines are dependent on the state in which the collections will be curated.

Records-Management Policy

There is no written records-management policy addressing the guidelines and standards for the curation of documentation. The firm does follow specific state guidelines for curation of documentation, dependent on the state in which the collections will be curated.

Field-Curation Guidelines

There are guidelines for the collection and curation of artifacts and documentation in the field.

Loan Procedures

There are no written loan procedures.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

There is an inventory policy, which is part of the laboratory procedures.

Latest Collection Inventory

Collections inventories are an on-going process.

Curation Personnel

Bernard Means is the collections manager. There are multiple archaeologists on staff, and several staff members assist in laboratory processing and fieldwork.

Curation Financing

Curation of collections is financed through contract fees for archaeological recovery.

Access to Collections

Multiple staff members have access to the collections, but access is controlled by Mr. Means.

Future Plans

There are no immediate future plans for the curation program.

Comments

1. Humidity is not monitored or controlled in the repository.
2. An integrated pest management system for the building is conducted by a professional pest management company.
3. There is no fire extinguisher in the collections storage area.
4. Individual artifacts in the collection are in appropriate primary and secondary containers; however, relevant artifacts are not labeled.
5. Records are stored in the same primary containers as the artifacts. In addition, records are not copied onto acid-free paper. There are no additional copies stored at a separate secure location.
6. The laboratory has a storage cabinet for hazardous chemicals, a vent hood, and an eye wash station.

Recommendations

1. Place all paper records in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes.
2. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation collection.
3. Make a duplicate copy of all the associated documentation, either on acid-free paper or archival microformat, and store these materials in a separate, fire-safe, secure location.
4. Monitor temperature and humidity to ensure artifacts are in a stable environment.
5. Fire extinguishers are recommended for the collections storage area.
6. Label all relevant artifacts.

Historic Annapolis Foundation

Annapolis, Maryland

Repository Summary

Volume of Artifact Collections: 24.5 ft³

Compliance Status: Artifacts will require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Artifacts should be labeled directly with accession number or catalog number and according to standard curatorial practices.

Linear Feet of Records: 0.9 linear feet

Compliance Status: Documentation will require complete rehabilitation to comply with existing federal guidelines and standards for archival presentation. Records should be removed from

current acidic folders and placed in archival-quality containers. In addition, duplicate copies should be produced and stored at a separate and secure location.

Human Skeletal Remains: Historic Annapolis Foundation is not currently curating any human skeletal remains recovered from EFA Chesapeake facilities.

Status of Curation Funding: Curation of archaeological collections is allocated through funds in the Historic Annapolis Foundation budget.

Date of Visit: February 13, 1995

Points of Contact: Jane Cox and Lynne Jones

The Historic Annapolis Foundation is located in the Maritime Museum in Annapolis, Maryland, but is funded through the University of Maryland's Archaeology in Annapolis program. The Foundation curates archaeological materials recovered from the U.S. Naval Academy.

Assessment

The Maritime Museum occupies the first floor of the museum building and the Historic Annapolis Foundation occupies the second floor (Figure 8). The building was built sometime in the 1800s for use as a warehouse. In the 1900s the building was used as a store and was eventually converted to a museum.



Figure 8. Exterior view of the Maritime Museum.

Structural Adequacy

The 690 ft² building has a stone foundation, a brick exterior, and a shingled roof. The structure appears to be solid, with no visible cracks or leaks. There are multiple exterior windows, all with wood frames and shades.

The floor in the collections storage area is composed of wood, with plaster interior walls and a plaster ceiling. There are three windows, all equipped with shades. There are two doors—one leading to a small office and one leading down the stairs to the museum. The collections storage area measures 225 ft², and the adjacent office encompasses 100 ft². Within the collections storage room are areas for artifact holding, washing, processing, temporary storage, and materials storage. The collections storage area is filled to approximately seventy percent capacity with archaeological materials.

Environmental Controls

The museum building is equipped with central heating and air conditioning and dust filters. Humidity is not monitored or controlled. The Foundation regularly maintains and cleans the building. Lighting consists of nonfiltered incandescent bulbs. All windows have shades.

Pest Management

A professional pest management company controls pests on a regular basis; however, monitoring is not part

of the regular program. At the time of the assessment, there were no visible signs of pest infestation.

Security

The museum building is equipped with an intrusion alarm wired to a private security company. In addition, doors have key locks, and there are locks on all first floor windows. The door to the collections storage area is secured with a dead-bolt lock.

Fire Detection and Suppression

Fire detection consists of smoke detectors, and fire suppression consists of two fire extinguishers, one located on each floor of the building.

Artifact Storage

Historic Annapolis Foundation is currently curating 24.5 ft³ of artifacts from the U.S. Naval Academy.

Storage Units

Artifact primary containers are stored on plywood shelves measuring 1.3 x 8 x 7.4 feet (l x w x h). Boxes are stacked two high on the top shelf (Figure 9).

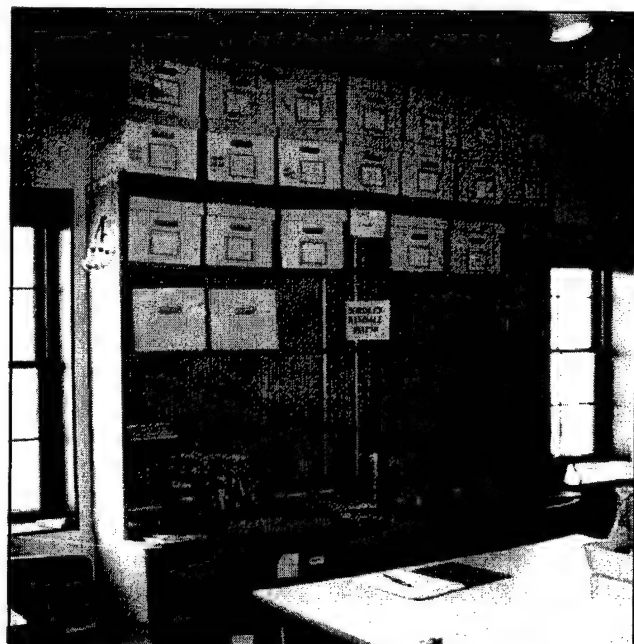


Figure 9. Storage units at the Historic Annapolis Foundation.

Primary Containers

Primary containers for artifacts consist entirely of acid-free (1.3 ft³) cardboard boxes with telescoping lids. Containers are labeled in pen on preprinted acid-free paper tags that are placed inside a clear adhesive tag. Label information consists of site number, facility, area, bag numbers, contents, and box number.

Secondary Containers

All secondary containers are 4- and 6-mil plastic zip-lock bags. Containers are labeled directly in marker with the site number, facility, provenience, and bag number. Tertiary containers also consist of plastic zip-lock bags with the same types of labels.

Laboratory Processing and Labeling

All of the artifacts (Table 9) are cleaned and sorted. Approximately ten percent of the relevant artifacts are labeled. Labels, which note site number only, are written directly on the object in ink.

Table 9.
Summary of Material Classes Present in
U.S. Naval Academy Collection at the Historic
Annapolis Foundation

Material Classes	%
<i>Prehistoric</i>	
Shell	8
Lithic Artifacts	1
¹⁴ C Samples	1
<i>Historical Period</i>	
Brick	51
Metal	13
Glass	11
Ceramic	10
Fauna	3
Plastic	1
Worked Bone/Shell	1
Total	100

Human Skeletal Remains

The Historic Annapolis Foundation is not currently curating any human skeletal remains recovered from the U.S. Naval Academy.

Records Storage

Approximately 0.9 linear feet of paper records associated with archaeological work conducted on the U.S. Naval Academy are stored in the office, which is set off from the collections storage area (Figure 10). Records are stored in a standard two-drawer, legal-sized file cabinet. The file cabinet is labeled with site number and contents written directly in marker on a paper tag taped to the cabinet drawer. Secondary containers for the records consist of manila folders; some records are stored loose. Manila folders are not labeled. Organization is by project and by provenience within project. Paper records consist of field notes, excavation records, and analysis records.

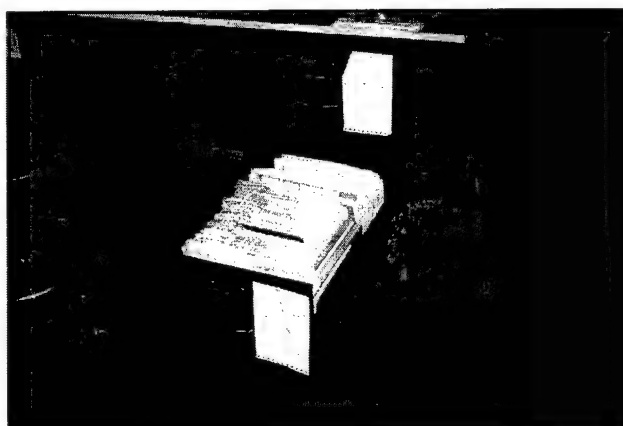


Figure 10. Extent of documentation from U.S. Naval Academy projects.

Collections-Management Standards

Registration Procedures

Accession Files

Collections are not accessioned, but there is a catalog of collections recovered from the field.

Location Identification

The location of artifacts within the repository is identified on a status list that tracks the stage of processing.

Cross-Indexed Files

Files are not cross indexed.

Published Guide to Collections

There is no published guide to the collections.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used for site-record administration.

Computerized Database Management

A dBASE system is used for the artifact catalogs. Backups are stored on disk and kept at the Foundation and the University of Maryland.

Written Policies and Procedures**Minimum Standards for Acceptance**

The Foundation follows Maryland state guidelines for minimum standards for acceptance.

Curation Policy

There is a written curation policy that addresses receipt, processing, and use of materials. There are procedures, but they have not been compiled into a written document.

Records-Management Policy

There is a written records-management policy addressing the guidelines and standards for the curation of documentation.

Field-Curation Guidelines

There are written guidelines for field curation.

Loan Procedures

There is a written loan procedure. Collections are generally only loaned to other museums or to individuals assigned to projects.

Deaccessioning Policy

There is a written deaccessioning policy.

Inventory Policy

There is an inventory policy.

Latest Collection Inventory

Collections were last inventoried in 1994.

Curation Personnel

Lynne Jones is the sole staff member of the Historic Annapolis Foundation. She operates the Foundation, works in laboratories at the University of Maryland, and teaches the summer field school for the University. Ms. Jones has student help and a large, dedicated staff of volunteers. Jane Cox is the curator at the University of Maryland.

Curation Financing

Curation is financed within the budget of the Foundation.

Access to Collections

Access to the collections is by permission only.

Future Plans

Future plans include the long-range acquisition of a different storage facility.

Comments

1. There are no humidity monitoring or control systems in the repository.
2. Monitoring is not a regular part of the pest management program.
3. Artifacts are appropriately housed; however, ten percent of the relevant artifacts are labeled.
4. Documentation is largely stored in acidic manila envelopes.
5. A large staff of volunteers is available for artifact processing.

Recommendations

1. Place all paper records in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes.
2. Remove all contaminants from paper records.

3. Make a duplicate copy of all the associated documentation, either on acid-free paper or archival microformat, and store these materials in a separate, fire-safe, secure location.

4. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation collection.

5. Monitor temperature and humidity to ensure artifacts are in a stable environment. Monitor for pests.

6. Label all relevant artifacts.

Editor's note: U.S. Navy collections held at the Historic Annapolis Foundation have been transferred to the University of Maryland archaeological curation facility in Crownsville, Maryland.

Jefferson Patterson Park and Museum

St. Leonard, Maryland

Repository Summary

Volume of Artifact Collections: 129 ft³

Compliance Status: These collections require partial rehabilitation to comply with existing federal standards and guidelines for curation. All of the collections are curated archivally, with the majority (97%) housed in acid-free containers. The majority (89%) of the secondary containers are archival zip-lock plastic bags. Almost all (96%) of the artifacts have been cleaned and sorted, although only five percent have been labeled. Those nonarchival secondary containers will need to be replaced, and the unlabeled artifacts should be labeled.

Linear Feet of Records: 6 linear feet

Compliance Status: Associated records require partial rehabilitation to comply with existing

federal guidelines and standards for archival preservation. Copies of records should not be stored with the originals; rather they should be housed at a separate and secure location. Additionally, if funding is available, slides should be duplicated.

Human Skeletal Remains: No human skeletal remains recovered from EFA Chesapeake facilities in Maryland or Virginia are stored at Jefferson Patterson Park and Museum.

Status of Curation Funding: Curation is financed through monies in the operating budget of the state of Maryland.

Date of Visit: February 14, 1995

Point of Contact: Dr. Julie King

Approximately 129 ft³ of prehistoric and historic artifacts and six linear feet of associated records from NSWC Patuxent River are currently housed at Jefferson Patterson Park and Museum.

Assessment

Artifact collections and records recovered from NSWC Patuxent River are currently stored in two separate buildings in the Jefferson Patterson Park and Museum complex. The majority of the artifact collections and associated records are housed in three separate collections storage areas within the Breckenridge Center (Figure 11), whereas the remaining artifact collections are stored in adjacent storage building #10075 (Figure 12). The structural



Figure 11. Exterior view of the Breckenridge Center.

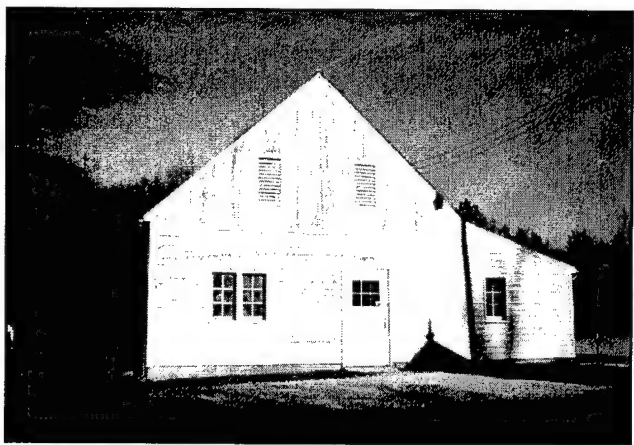


Figure 12. Exterior view of Storage Building #10075.

adequacy, environment, pest management, security, and fire detection/suppression systems are consistent throughout the three collections storage areas located in the Breckenridge Center, so only the facility as a whole is discussed in these sections. However, individual collections storage areas will be addressed when describing artifacts and records.

Repository 1—Breckenridge Center

The Breckenridge Center, encompassing approximately 2700 ft², is a multistory structure containing offices (including 80 ft² for photographic documentation), a library, restrooms, a kitchen area, a basement collections storage area (120 ft²), and a basement laboratory/records storage area (250 ft²).

Repository 2—Storage Building #10075

Storage Building #10075 is located about 200 yards southeast of the Breckenridge Center. It includes a

carpenter shop, an area for general storage, and a 96 ft² archaeological collections storage locker.

Structural Adequacy

Repository 1—Breckenridge Center

Originally constructed in the 1930s as a farmhouse, this repository currently houses the administrative offices of Jefferson Patterson Park and Museum, in addition to a library, a kitchen area, an archaeological collections storage area, and an archaeological laboratory. The offices, library, and kitchen areas are located on the first and second floors of the repository. The archaeological collections storage area and laboratory are situated in the basement. The basement floor is constructed of poured concrete, whereas the floors above grade are made of wood.

The roof of the facility is covered with shingles that have been replaced within the last few years. The ceilings in the above-grade floors are constructed of plaster, whereas the basement ceiling is made of concrete. The exterior walls relating to the above-grade floors are covered with wood siding and the exterior walls of the basement are constructed of cinder block. Interior walls are constructed both of concrete blocks and plasterboard, an exception being the basement collections storage area where the north wall is composed of an electric blanket hung from the ceiling.

Multiple windows in the repository consist of one small unshaded window located in the south end of the basement laboratory area and two situated in the west wall of the second floor office/photograph storage area. Entrance to the facility is gained through a single panel wood door containing a window and covered by a glass storm door located on the east side of the building. Internal and external renovations have taken place in the form of exterior painting, installation of air conditioning, and improved plumbing and electrical systems.

The basement collections storage area is filled to capacity, the basement laboratory is filled to approximately seventy-five percent capacity, and the second floor office/photograph storage area is filled to capacity. Staff understand that there is no adequate space for storage; however, a new state-of-the-art facility is in the process of being constructed (see *Editor's Note*). Regardless, several rehabilitative measures need to be taken if collections are to continue to be stored in this repository short term.

Repository 2—Storage Building #10075

Storage Building #10075 is an outbuilding that was probably constructed at the same time as the farmhouse. Currently, the front half is used as a general storage area, and a small (96 ft²) storage locker has been built in this area to house archaeological collections. The back half of the building is used as a carpenter shop. The building has a concrete floor and wooden exterior walls. The north and west interior walls of the collections storage locker consist of perforated hardboard, whereas the east wall is composed of wooden studs and plywood. The ceiling is composed of wooden crossbeams covered with insulation. There are several windows throughout the building. An uncovered window measuring 1.5 x 3 feet is located on the south wall of the collections storage locker. The window is not securely mounted in the wall, as evidenced by cracks surrounding the frame. These cracks can hamper any attempt at environmental control in the room and also pose a security risk. In order to properly care for the collections in this repository, rehabilitative measures need to be taken.

Environmental Controls

Repository 1—Breckenridge Center

Central heat and air conditioning and several space heaters serve as temperature controls for the above-ground floors in the Breckenridge Center. Humidity is regulated by a commercial dehumidifier. No temperature controls are present for the basement laboratory and collections storage areas. The dust filtration system consists solely of standard furnace filters. Light is provided throughout the building by nonfiltered fluorescent tubes, as well as natural light from the windows. The operations staff is responsible for maintaining the building and cleaning the above-ground floors, and curation staff clean the basement collections storage area and laboratory on a monthly basis.

Repository 2—Storage Building #10075

Although there is no air conditioning in Storage Building #10075, temperature is partially regulated by forced-air heat. Humidity is neither monitored nor controlled. Standard furnace filters are the only means of dust filtration. Lighting is provided by fluorescent tubes covered with nonfiltered plastic

shields and natural light from the unshaded window in the south wall of the collections storage locker. The curatorial staff regularly maintains this building.

Pest Management

Repository 1—Breckenridge Center

An integrated pest management program that includes both monitoring and control is in place at the Breckenridge Center. Rodent bait traps are used to monitor pest activity, and a professional pest management company has been hired to visit and fumigate the building, if necessary, on a monthly basis. Staff reported that there had been silverfish problems and occasional rodent activity in the past, but the assessment team did not see any evidence of this during their visit.

Repository 2—Storage Building #10075

The pest management program for Storage Building #10075 is the same as that for the Breckenridge Center.

Security

Repository 1—Breckenridge Center

Security measures at the Breckenridge Center include simple window locks and key locks on exterior doors. The basement laboratory is secured by a padlock when employees are not present. There is no lock on the basement collections storage area door, and the north wall of the room is composed of a hanging electric blanket.

Repository 2—Storage Building #10075

The exterior door to the repository is secured with a key lock, and the door to the collections storage locker contains only a simple latch. Additionally, the facility is also protected by Southern Maryland Security.

Fire Detection and Suppression

Repository 1—Breckenridge Center

Smoke detectors and fire extinguishers represent the only means of fire detection and suppression in this facility.

Repository 2—Storage Building #10075

Smoke detectors and one fire extinguisher located outside the collections storage locker are the only means of fire detection/protection in this repository. No fire protection measures exist inside the storage locker.

Artifact Storage

Storage Units

Archaeological collections at Jefferson Patterson Park and Museum (Table 10) are housed in two separate repositories on five types of storage units: open enameled metal shelving units, an enameled metal cabinet, a standard lane case, wooden pallets, and on the floor.

Table 10.
Summary of Material Classes in NAS Patuxent River Collections at the Jefferson Patterson Park and Museum

Material Classes	%
<i>Prehistoric</i>	
Lithics	6
Shell	1
<i>Historical Period</i>	
Ceramics	4
Glass	1
Lead	1
Brick	73
Shell	8
Fauna	2
Metal	2
Soil	2
Total	100

Repository 1—Breckenridge Center Collections Storage Area 1

Two types of storage units and the floor are used to house boxed archaeological collections in the basement collections storage area. Thirty-nine percent are stacked three-to-four-high on the poured concrete floor. Twenty-one percent are individually stacked on two sizes of open enameled metal shelving units measuring 1.5 x 4 x 7 and 1.5 x 3 x 7 feet (l x w x h). Twelve percent are stacked four high in an enameled metal cabinet with doors, measuring 1.5 x 3 x 6.5 feet (l x w x h).

Repository 1—Breckenridge Center Collections Storage Area 2

Archaeological type collections are stored in a standard size, locking enameled metal lane case (Figure 13) that measures 3.5 x 3 x 3.5 feet (l x w x h). Each lane case contains a typed acidic paper label in a metal tag holder that includes project name, site number, and accession number information.



Figure 13. Metal lane case holding archaeological type collections.

Repository 2—Storage Building #10075

Twenty-five percent of the total collections are individually stacked on enameled metal shelving units that measure 1.25 x 3 x 6.25 feet (l x w x h). Two percent are stacked on unsealed wooden pallets located under the window on the south wall.

Primary Containers

Repository 1—Breckenridge Center Collections Storage Area 1

Two types of primary containers are used to curate archaeological collections in the basement collections storage area. Fifty-eight percent of the acid-free boxes, which comprise eighty-five percent of the total boxes, are located in the basement collections storage area. These boxes are constructed of corrugated plastic and have telescoping lids. The corrugated plastic design protects the artifacts inside from water damage in the event of faulty sprinkler systems and/or leaking roofs. All primary container labels consist of acidic note cards secured inside adhesive plastic label holders. Label information is written in marker and includes site number, project

name, year, and catalog number. The only container damage noted by the assessment team was the presence of dust on the box lids.

Repository 1—Breckenridge Center Collections Storage Area 2

Enameled metal drawers serve as primary containers for type collections curated in the basement laboratory. Acidic paper labels contained in metal label holders are written in marker and/or ink and include project name, site number, and accession number.

Repository 2—Storage Building #10075

Thirty-two percent of the total 85% of corrugated plastic archival boxes serve as primary containers for those artifacts housed in the storage building. Container labels are the same as those on boxes stored in the Basement Collections Storage Area.

Secondary Containers

Repository 1—Breckenridge Center Collections Storage Area 1

Zip-lock plastic bags and artifacts loose in boxes constitute the secondary containers observed in the basement collections storage area. All zip-lock bags are directly labeled with marker and include site number, project name, catalog number, and provenience information. Additionally, smaller zip-lock bags are nested in the larger ones. These contain acid-free paper tags directly labeled in marker with the same label information as that on the larger bags. Those artifacts found loose in boxes are accompanied by acid-free paper tags written in marker with the site number, project name, catalog number, and provenience information.

Repository 1—Breckenridge Center Collections Storage Area 2

Artifact collections stored in the lane cases in the basement laboratory are contained in both zip-lock plastic bags and small acidic cardboard boxes. Zip-lock bags are directly labeled with marker and contain site number, site name, and provenience information. Those in the small acidic cardboard boxes are accompanied by paper tags that include information regarding type of artifact. Historic brick forms the majority of the artifacts found

loose in boxes. These are not accompanied by any type of label.

Repository 2—Storage Building #10075

Artifact collections stored in this repository are stored within zip-lock plastic bags or loose in the boxes. The zip-lock bags are directly labeled in marker with the site number, project name, catalog number, and provenience information.

Laboratory Processing and Labeling

The majority of artifacts (93%) have been cleaned and sorted by material class. Approximately five percent of the relevant artifacts have been directly labeled with pen or india ink over white correction fluid with the site number and catalog number information.

Human Skeletal Remains

No human skeletal remains recovered from EFA Chesapeake facilities are stored at Jefferson Patterson Park and Museum.

Records Storage

The six linear feet of associated records are stored in two collections storage areas within the Breckenridge Center (Table 11).

Table 11.
Summary of Records Present in NAS Patuxent River Collections at the Jefferson Patterson Park and Museum

Type	Linear Feet
Paper	3.3
Photographic	1.9
Maps	0.8
Total	6.0

Repository 1—Breckenridge Center Collections Storage Area 2

Paper Records

Paper records are stored in 2.5-inch plastic three-ring binders on unsealed wooden shelving units measuring 6 x 2.5 x 1 feet (l x w x d) and in an

enclosed enameled metal cabinet (Figure 14) measuring 6.5 x 3 x 1.4 feet (l x w x d).

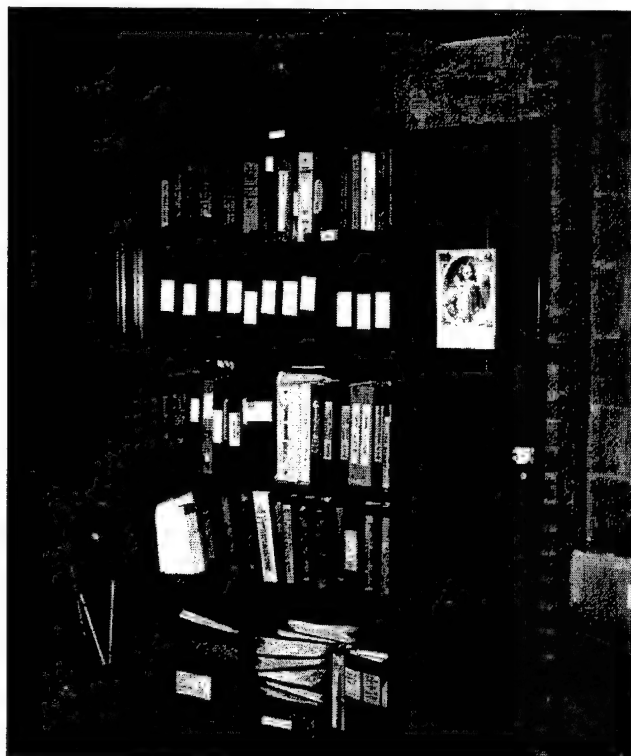


Figure 14. Storage unit for records.

The binders contain typed adhesive labels listing facility name, date, site number/project name, contents, binder number, and whether it is an original or a duplicate. All paper records are arranged by project and site number, and divided by type of paper record within the binder.

Paper records are usually created on acid-free paper. If they were not, a copy is made and kept with the original so that the originals do not have to be used and in turn damaged. Of the total 3.3 linear feet of associated paper records, 0.9 linear feet have been duplicated. Types of paper records in the collection include excavation, analysis, and survey records.

Photographic Records

Photographic records stored in the Basement Laboratory consist of both photograph logs and black-and-white contact sheets and negatives. The photograph logs (0.15 linear feet) are stored in the three-ring binders along with the other paper records. The contact print sheets and negatives (0.5 linear feet) are currently housed in an acid-free box. Within

the box, the negatives are stored in archival sleeves that are labeled with marker with the date and Jefferson Patterson Park and Museum's name. The contact print sheets are stored in acidic manila envelopes that are directly labeled with a site number. Many of these contain contaminants such as paper clips.

Maps

Large-scale artifact distribution maps and small-scale plan and profile maps are stored in the same three-ring binders as the paper records. The artifact distribution maps have been folded in order to fit into the three-ring binders.

Repository 1—Breckenridge Center Collections Storage Area 3

Photographic Records

The 1.25 linear feet of color slides are stored in Dr. Julie King's office. A standard-size, enamel metal file cabinet serves as the primary container, and hard plastic hanging slide holders serve as secondary containers for the color slides. The plastic slide holders have plastic tab labels listing the site numbers and catalog numbers. The slides are individually labeled with site number and date information in marker. Although no security copy has been made, there are multiple copies of many of the slides.

Collections-Management Standards

Registration Procedures

Accession Files

Accessioning is by project and site.

Location Identification

The location of collections within the repository is identified in the accession file.

Cross-Indexed Files

Files are partially cross indexed.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used for site-record administration.

Computerized Database Management

Currently, only photographic information is stored on computer in dBASE IV. Data are stored on disk and hard drive. The Museum is actively trying to acquire the *Rediscovery* program for the management of collections.

Written Policies and Procedures

Minimum Standards for Acceptance

There are minimum standards for acceptance that address the types of boxes and bags in which the collections should be contained. These standards are based on 36 CFR Part 79.

Curation Policy

There is a written curation policy that addresses the mission, accessioning, loans, and deaccessioning.

Records-Management Policy

Jefferson Patterson Park and Museum follows state guidelines for the curation of archaeological documentation.

Field-Curation Guidelines

There is an excavation manual that addresses field curation.

Loan Procedures

Loans are made to institutions, upon written request or proposal. Certain amounts of destructive analysis may be allowed.

Deaccessioning Policy

Some collections are deaccessioned, but these do not include federal archaeological collections.

Inventory Policy

There is a draft policy manual that contains the inventory policy.

Latest Collection Inventory

Collections were last inventoried in 1994.

Curation Personnel

There is no full-time curator for the archaeological collections. Dr. Julie King is a part-time curator for the collections, but her time is split between curation and fieldwork. Ed Chaney assists Dr. King in both curation and fieldwork. Christy Leeson supervises fieldwork, artifact processing, and report production.

Curation Financing

Curation is financed through the operating budget of the state of Maryland.

Access to Collections

Collections are accessible by researchers or interested parties, but they cannot be taken from the grounds. A letter of intent is requested prior to a visit and the visit is supervised.

Future Plans

A new laboratory and curation facility will be completed in 1997 within Jefferson Patterson Park and Museum.

Comments

1. The Breckenridge Center has central heat and air conditioning, as well as space heaters. Humidity is controlled through commercial dehumidifiers. However, these temperature controls are not present in the basement collections storage area. The storage building is equipped with heating but not air conditioning, and humidity is not monitored or controlled.
2. An integrated pest management program is in place for both repositories.
3. Security measures for both repositories consist primarily of key locks on the exterior doors.
4. Fire detection for both repositories consists only of smoke detectors. Fire suppression consists of fire extinguishers in both repositories.

5. Primary containers for artifacts consist mainly of corrugated plastic acid-free boxes and acid-free cardboard boxes. Type collections are housed in baked enamel metal lane case drawers.

6. The majority of secondary containers consist of archival-quality plastic zip-lock bags. Large artifacts, primarily brick, are stored loose in the primary containers. A small percentage of secondary containers consist of small acidic cardboard boxes.

7. Although nearly all artifacts have been cleaned and sorted by material class, approximately five percent of the relevant artifacts has been labeled

2. Install security systems for both the Breckenridge Center and the storage building. Security systems should be linked to the local police department or a private security firm. Equip all exterior doors with dead-bolt locks.

3. Install sprinkler systems in both repositories. Wire systems to an alarm notification system linked to the local fire department.

4. Replace small acidic cardboard box secondary containers with archival-quality plastic zip-lock bags.

5. Label relevant artifacts in the collections.

6. Monitor temperature and humidity to ensure artifacts are in a stable environment.

7. Remove all contaminants from paper records.

8. Store large-scale maps in flat metal map cases.

Recommendations

1. Extend central heat and air conditioning in the Breckenridge Center into the collections storage area. Place commercial dehumidifiers in the laboratory and collections storage areas. Install central heating and air conditioning in the storage building, and regulate humidity through the use of a commercial dehumidifier. Monitor temperature and humidity.

Editor's Note: The state-of-the-art facility is complete.

KCI Technologies

Mechanicsburg, Pennsylvania

Repository Summary

Volume of Artifact Collections: 29.6 ft³

Compliance Status: Artifacts will require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Most of the artifacts (80%) require cleaning and labeling. All artifacts should be removed from acidic cardboard and molded plastic box primary containers and placed in archival-quality acid-free boxes. Overpacked boxes of soil samples should have their contents redistributed into several additional archival boxes. The practice of nesting primary containers should be discontinued. In addition, the fiberboard shelves of the storage units should be covered with an inert liner such as Ethafoam® or Mylar®.

Linear Feet of Records: 2.63 linear feet

Compliance Status: Documentation will require complete rehabilitation to comply with existing federal guidelines and standards for curation of archaeological documentation. Records and

photographic media should be removed from acidic folders and nonarchival plastic sleeves, labeled with an archivally acceptable product, and then placed in archival-quality receptacles.

All fasteners should be removed from the records. Oversized site maps and excavation profiles should be unfolded, separated by sheets of acid-free paper, and stored flat in a metal map cabinet. Duplicate copies of all records should be produced and stored at a separate and secure location. Fiberboard shelves should be lined as noted for artifact storage units.

Human Skeletal Remains: KCI Technologies is not currently curating any human skeletal remains recovered from EFA Chesapeake facilities in the project area.

Status of Curation Funding: Curation of archaeological collections is included in the contract budget.

Date of Visit: May 17, 1996

Point of Contact: Richard A. Geidel

KCI Technologies is a private contracting firm whose primary mission is engineering and planning. The offices, laboratory, and temporary artifact storage area for the cultural resources division of KCI are located at its office building in

Mechanicsburg. Because the lab is used for processing and temporary holding only, KCI has no plans to expand this part of its facility, although Mr. Geidel stated that he felt some additional storage space would be beneficial. A total of 29.6 ft³ of artifacts and 2.63 linear feet of records from archaeological projects conducted on the U.S. Naval Academy is currently housed at KCI.

Assessment

Space leased by KCI is in a six-year-old office park owned by Szeles Realty. The ground level space that KCI occupies, in addition to its administrative and engineering offices on the fourth floor, has been converted into several small offices/study rooms, and a processing laboratory/storage area. Multiple activity areas are present, including artifact holding, washing, processing, temporary storage, supplies storage, records study, records storage, and offices.

Structural Adequacy

The foundation of the repository is concrete, and exterior walls are composed of concrete block and steel framing with a brick exterior. The roof, which is original to the building, is gable constructed and covered with corrugated metal. The building is solid, with no cracks or leaks. There have been no renovations or upgrades, with the exception of minor interior wall restructuring to accommodate KCI's archaeology lab and storage. There are multiple exterior windows and doors throughout the building.

The collections storage area floors are concrete. Interior walls are painted plasterboard, and the ceilings are suspended acoustical tiles. There are two doors in the storage/processing area, one for each of the offices. Window frames are steel, and appear to be airtight. Exterior doors have metal-frames and glass panels, and there are multiple interior wood panel doors leading to the collections area and offices. Storage areas are filled to capacity with archaeological materials.

Environmental Controls

The office park in which KCI leases space has electric pump forced-air heat and central air conditioning equipped with dust filters. Heat and humidity are not monitored or regulated in the storage/processing area because KCI staff members do not have access to the building's environmental controls. The entire building is professionally cleaned on a daily basis. Windows have blinds for shade. Lighting is provided by overhead nonfiltered fluorescent tube fixtures.

Pest Management

The entire building is professionally sprayed biannually for pests. KCI staff monitors for infestations on an as-needed basis. There were no signs of pest infestations observed by the assessment team, although KCI staff indicated that they had seen a few centipedes in the past.

Security

Security measures for the repository consist of dead-bolt locks on the exterior doors with an intrusion alarm system tied to the police station, key locks on the interior doors, window locks, and controlled access by staff.

Fire Detection and Suppression

Fire detection measures consist of smoke detectors, manual fire alarms, and a main alarm tied to the local fire department. Fire suppression measures consist of a sprinkler system and manual fire extinguishers located throughout the building.

Artifact Storage

Storage Units

Artifact collections are stored on multiple sets of adjoining, nonmovable metal frames fitted with fiberboard shelves (Figure 15). Units measure 1.5 x 3 x 3 feet (l x w x h). The U.S. Naval Academy collections total 29.6 ft³ (Table 12).

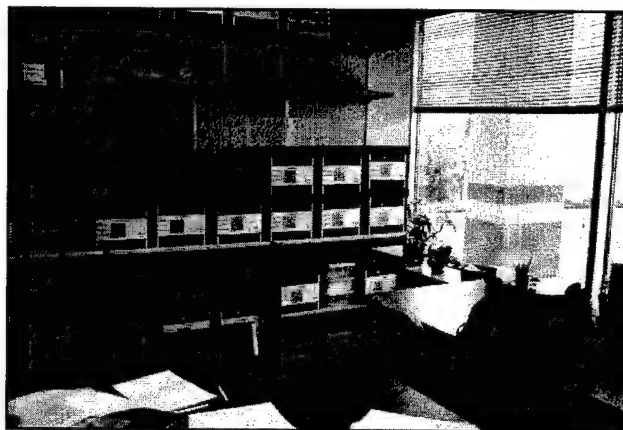


Figure 15. Primary containers for U.S. Naval Academy archaeological materials.

Table 12.
Summary of Material Classes Present in
U.S. Naval Academy Collections at KCI

Material Class	%
<i>Historical Period</i>	
Brick	17.0
Ceramic	12.0
Fauna	5.0
Fire Cracked Rock	7.5
Glass Artifacts	7.0
Metal	10.0
Soil	24.5
Shell	15.0
Wood/Charcoal	2.0
Total	100.0

Primary Containers

Artifact collections are stored in 23 acidic and four acid-free cardboard boxes, (1.18 ft³ each in volume), and six molded plastic boxes, (0.22 ft³ each in volume). While both types of boxes have telescoping lids, it should be noted that the lids on the molded plastic containers create an airtight environment that is not necessarily beneficial to organic artifacts. Labels for all primary containers are made of adhesive-backed paper that is labeled in black marker with the project name and object catalog numbers. Artifacts are generally well packed and padded with bubble wrap, although some nesting of primary containers occurs. Many of the boxes containing soil samples are overpacked.

Secondary Containers

Secondary containers for the artifact collections consist almost entirely (95%) of plastic zip-lock bags. The only exceptions are five acid-free specimen boxes (2³/₄ inches square) that are secured with linen tape. Labels are generally written directly in marker, with information consisting of artifact provenience and the excavation date.

Laboratory Processing and Labeling

Artifacts stored in molded plastic boxes (20% of the collections) have all been cleaned and are either directly labeled or tagged. Labels consist of site number and provenience. The remaining artifacts stored in cardboard boxes (88%) have been cleaned

(75%) and labeled. Most (98%) of the artifacts are sorted by material class.

Human Skeletal Remains

KCI Technologies does not curate any human skeletal remains from U.S. Naval Academy lands.

Records Storage

Documentation associated with archaeological projects is stored on the same shelves as the artifact collections. There are 2.42 linear feet of paper records housed at KCI, and 0.21 linear feet of photographic documentation (Table 13).

Table 13.
Summary of Records Present in U.S. Naval
Academy Collections at KCI

Type	Linear Feet
Paper	2.08
Report	0.25
Photographs	0.21
Maps	0.09
Total	2.63

Paper Records

Primary containers consist of three unlabeled acidic cardboard boxes (measuring 1.17 ft³ each) with telescoping lids. The arrangement of records within each primary container is generally by project, document type, and recording media.

Secondary containers consist of acidic manila folders, bound notebooks, letter-size acidic and nonacidic envelopes, archival and nonarchival plastic sleeves, and nonarchival three-ring binders. All types, except for the three-ring binders, are labeled directly in pen or pencil with the contents and site number or project name. Records are generally clean and in good condition, with the exception of the original field notes, which show some evidence of dirt and wear. Bound and unbound reports are in acidic manila folders. Larger project maps and drawings have been folded and are also placed in acidic manila folders.

Photographic Records

Photographic records are stored in the same boxes as the associated records, but are placed in separate

folders or envelopes. Secondary containers consist of acidic manila folders, acidic and nonacidic envelopes, and archival and nonarchival plastic sleeves. The manila folders and most of the envelope and sleeve labels are handwritten in black ink with the project name and roll/exposure numbers. Most individual photographs, slides, and negatives are unlabeled.

Collections-Management Standards

Registration Procedures

Accession Files

KCI Technologies is not a permanent repository; therefore, it does not accession collections.

Location Identification

Artifact primary containers are on shelves labeled with project names.

Cross-Indexed Files

Some files are cross indexed by date and project.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

There are no site records at KCI beyond those produced for a project. These records are stamped with a file section number and the date.

Computerized Database Management

KCI is in the process of converting to a computerized database for the management of some aspects of their archaeological collections.

Written Policies and Procedures

Minimum Standards for Acceptance

Not applicable.

Curation Policy

There are standards for preparing objects for curation but no overall written plan that addresses receipt, processing, and use of materials.

Records-Management Policy

There is a written records management policy addressing the guidelines and standards for the processing of documentation.

Field-Curation Guidelines

There are written guidelines for field curation that address field conservation and recommendations for manuals to be used.

Loan Procedures

There are no written loan procedures, although Richard Geidel indicated that study of the collections is possible for researchers with permission from a collections owner.

Deaccessioning Policy

Not applicable.

Inventory Policy

There is no written inventory policy, although collections are fully inventoried as they are acquired.

Latest Collection Inventory

Collections are inventoried when they arrive from the field.

Curation Personnel

Richard Geidel is the senior associate cultural resources director and manages all aspects of the archaeological collections housed at KCI.

Curation Financing

Curation funding is financed through contract budgets.

Access to Collections

Access to the collections is limited to KCI cultural resource staff and researchers with permission. A written letter of intent is necessary, and access to the collections is supervised.

Future Plans

Because the building space in question is for processing and temporary storage only, KCI Technologies has no plans to upgrade this cultural

resource space to include curation-level permanent storage.

Comments

1. The building that KCI Technologies occupies has central heat and air conditioning but no humidity control. In addition, KCI staff members have no access to any of the building's environmental monitoring controls.
2. There is no integrated pest management system.
3. Security is adequate with key locks and intrusion alarms, but it is not ideal. Custodial staff has access to collections and the collections are housed in a ground floor room with two doors and a large window.
4. Fire detection and sprinkler systems for fire suppression are in place.
5. Primary containers consist of acidic cardboard boxes, but there are a number of molded plastic boxes as well. Secondary containers for artifacts consist mainly of plastic zip-lock bags and a few acid-free specimen boxes. Labels are generally written directly on the containers.
6. Primary containers for records and photographs consist of acidic cardboard boxes. Secondary containers consist mainly of acidic envelopes and

manila folders, and a few archival and nonarchival plastic sleeves. There are no duplicate copies of the records stored at a separate, secure location.

Recommendations

1. Clean and appropriately label all archaeological materials according to federal guidelines and standards.
2. Redistribute and repack collections into clearly labeled acid-free cardboard boxes.
3. Arrange, describe, archivically prepare, and place all associated documentation and reports in acid-free cardboard boxes or metal file cabinets according to federal guidelines and standards.
4. Produce and store a duplicate copy of all associated documentation at a separate and secure location.
5. Monitor temperature and humidity to ensure artifacts are in a stable environment.
6. Remove all contaminants from paper records.

Editor's note: All containers used by KCI to hold Navy collections will be changed once a repository has been located. Collections held in plastic primary containers were pulled for photograph purposes only, they will be reintegrated into the collection proper.

Maryland Historical Trust

Crownsville, Maryland

Repository Summary

Volume of Artifact Collections: 45.2 ft³

Compliance Status: Artifacts will require partial rehabilitation to comply with existing federal guidelines and standards for curation. Artifacts should be removed from the current acidic cardboard box primary containers and acidic paper bag and other nonarchival secondary containers, and placed in archival-quality zip-lock bags and acid-free boxes.

Linear Feet of Records: 1.8 linear feet

Compliance Status: Documentation will require some rehabilitation to comply with existing federal guidelines and standards for archival

preservation. Records should be removed from current acidic folders and placed in archival-quality containers. In addition, duplicate copies should be produced and stored at a separate and secure location.

Human Skeletal Remains: Maryland Historical Trust is not currently curating any human skeletal remains recovered from EFA Chesapeake facilities.

Status of Curation Funding: Curation of archaeological collections is financed in the state budget.

Date of Visit: February 16–17, 1995

Point of Contact: Ronald Orr

The Maryland Historical Trust (MHT) is the state archaeology information center and state repository for archaeological collections. The information center is located in Crownsville, Maryland, in the People's Resource Center. The collections repository is currently located in a building on the Spring Grove Hospital Center complex in Catonsville, Maryland, a suburb of Baltimore. Future plans call for the 1997 completion of a new curation facility at the Jefferson Patterson Park and Museum in St. Leonard, Maryland. A total of 45.2 ft³ of artifacts from four EFA Chesapeake facilities (NAWC Patuxent River,

NESEA St. Inigoes, NCD Bainbridge, and NSWC Indian Head) are housed at the Trust.

Assessment

Repository 1—Garrett Building

The Garrett Building was constructed in the 1930s and was originally used as a psychiatric hospital (Figure 16). Floor space is approximately 18,000 ft² in three floors and two wings. Multiple activity areas are present, including artifact holding, washing, processing, and temporary storage, supplies storage, records study, records storage, and offices. There are two collections storage areas, one on the east end and the other on the west end of the building.

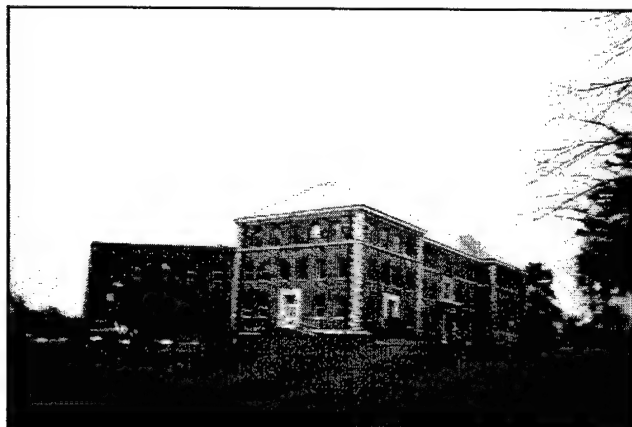


Figure 16. Exterior of the Garrett Building.

Repository 2—People's Resource Center

The People's Resource Center is a large office building constructed in 1991 (Figure 17). There are four floors above grade and one floor below grade. Activity areas within the archaeology sections include a receiving/loading dock, artifact processing lab, records study room, photographic storage room, and offices. The total floor space of the Center exceeds 128,500 ft². Records and photographic materials are stored in the records storage and study library in the archaeology section of the Center.

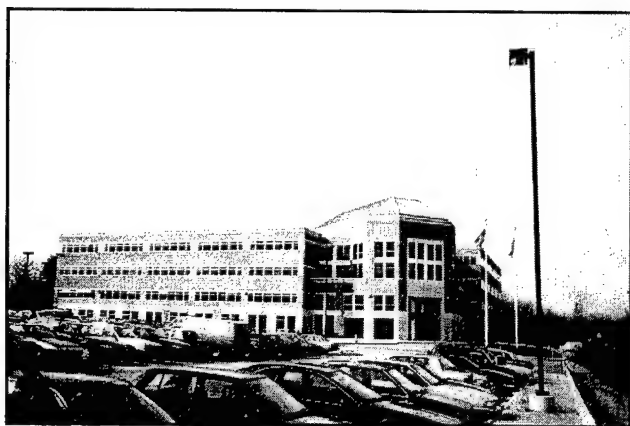


Figure 17. Exterior of the People's Resource Center.

Structural Adequacy

Repository 1—Garrett Building

The repository has a concrete foundation, with exterior walls composed of stone with a brick interior. The roof is composed of slate tile that was scheduled to be replaced in 1996. The building is solid, with no cracks or leaks. There have been

several renovations and upgrades, including radiator upgrades, replacement of acoustical tile areas, and covering of piping. There are multiple exterior windows and doors.

The collections storage area floors are concrete with a tile covering. Interior walls are brick, and the ceilings are concrete. There are multiple windows, but only one door into each wing. Window frames are steel, but there is evidence that they are not airtight. Exterior doors are metal panel, and there are multiple interior wood panel doors leading to a variety of small storage spaces and to the restrooms. Interior floor space measures approximately 1100 ft² in the east wing and approximately 900 ft² in the west wing. Both storage areas are filled to approximately eighty percent capacity with archaeological collections.

Repository 2—People's Resource Center

The foundation of the Center is concrete, with concrete block exterior walls on the lower levels and brick exterior walls for the majority of the structure. The roof is composed of built-up asphalt. There have been multiple renovations of the interior walls. There are multiple exterior windows and doors.

The records storage area measures over 500 ft² and contains the records storage, records study, and library areas. The official Maryland archaeological site files are located in this area. The floor is concrete overlaid with carpet. Interior walls are plasterboard, and the ceiling is suspended acoustical tiles. There are no windows in the storage area. One wood panel interior door and two wood panel doors to the exterior hallways allow access into and out of the storage area. The area is filled to approximately eighty percent capacity with archaeological documentation and associated source books.

Environmental Controls

Repository 1—Garrett Building

The Garrett Building has radiator-generated heat and central air conditioning equipped with dust filters. Radiator regulators in the collections storage areas affect temperature. Humidity is monitored by hygrothermographs in the laboratories and by a sling psychrometer in the collections storage areas. At the time of the assessment, dehumidifiers were not

present but will be acquired. The Trust has an agreement with the Spring Grove Hospital Center for basic maintenance. Cleaning is conducted weekly and monthly by janitorial staff. Windows in the collections storage areas were not shaded at the time of the assessment, but shades with ultraviolet protection will be acquired. Lighting is provided by nonfiltered fluorescent tubes.

Repository 2—People's Resource Center

The Center has central heat and air conditioning equipped with dust filters. Humidity is not monitored or controlled. Maintenance and cleaning are performed daily by janitorial staff. Lighting is provided by non filtered fluorescent bulbs.

Pest Management

Repository 1—Garrett Building

There is no integrated pest management system. At the time of the assessment the Trust had recently acquired the Garrett Building and no program had been developed. There were no signs of pest infestations at the time of the assessment.

Repository 2—People's Resource Center

There is no integrated pest management system. Pest management consists of regular spraying by a professional pest management company. Spraying is conducted three times per year.

Security

Repository 1—Garrett Building

Security measures for the repository consist of key locks, dead-bolt locks, window locks, controlled access by staff, and regular hospital campus patrols by a private security company. Windows in the building are opened only slightly. The collections storage areas are secured by dead-bolt locks on the doors into the repository. Special artifacts are kept in locking lane cases.

Repository 2—People's Resource Center

Security measures for the Center consist of a 24-hour in-house guard, key locks, dead-bolt locks, and window locks. The records storage area is secured by key locks on the exterior doors.

Fire Detection and Suppression

Repository 1—Garrett Building

Fire detection measures consist of smoke detectors and manual fire alarms. Fire suppression measures consist of a sprinkler system and fire extinguishers located throughout the building. The west wing collections storage area is equipped with a fire extinguisher. The manual fire alarms are linked to a 24-hour manned operating station.

Repository 2—People's Resource Center

Fire detection consists of smoke detectors and manual fire alarms. Fire suppression consists of a sprinkler system and fire extinguishers located throughout the building. There are no fire extinguishers located in the records storage area.

Artifact Storage

Storage Units

Artifact collections are stored on multiple sets of baked enamel metal uprights and shelves that measure 3.1 x 6.3 x 6.9 feet (l x w x h).

Primary Containers

Artifact collections are stored in 46 boxes, encompassing 45.2 ft³. There are multiple types of boxes, most (33) of which are acid-free cardboard boxes (measuring 1.3 ft³ each) with telescoping lids. The remainder of the primary containers are acidic cardboard boxes with telescoping lids (Figure 18), ranging from 0.9 ft³ to 1.2 ft³ in volume. Labels for all primary containers consist of a paper label placed

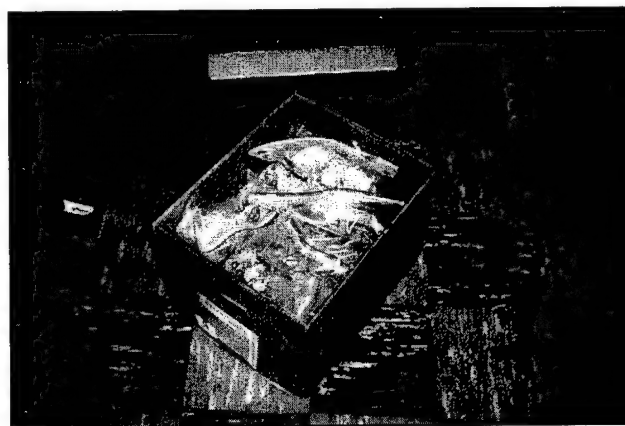


Figure 18. Primary and secondary containers used to hold artifacts.

inside an adhesive plastic jacket that is directly attached to the container. The paper label is a computer printout that contains contents, box numbers, and site numbers.

Secondary Containers

Secondary containers consist mainly of plastic zip-lock bags and paper bags (Figure 18). Labels are generally written directly in marker, with information consisting solely of the site number. A much smaller number of secondary containers have acidic paper tags inserted in the secondary containers. Information again consists solely of the site number.

Laboratory Processing and Labeling

The majority (97%) of the artifacts (Table 14) have been cleaned, but approximately forty-two percent have been labeled. Labels consist of site number, and occasionally catalog number or lot number, written directly in ink on the artifact or on white correction fluid previously applied to the artifact. Most (98%) of the artifacts are sorted by material class.

Table 14.
Summary of Material Classes Present in
EFA Chesapeake Collections at the MHT

Material Classes	%
<i>Prehistoric</i>	
Lithic	32
Shell	10
Ceramic	6
Fauna	3
<i>Historical Period</i>	
Metal	17
Brick	15
Ceramic	9
Glass	6
Coal	1
Wood	1
Total	100

Human Skeletal Remains

The Maryland Historical Trust is not currently curating any human skeletal remains recovered from EFA Chesapeake facilities.

Records Storage

Documentation associated with archaeological projects (Table 15) is stored in two separate repositories, the Garrett Building and the People's Resource Center.

Paper Records

Records housed at the Garrett Building are stored in the east wing in a small room within the collections storage area that is devoted to records storage. Storage units for the primary containers consist of the same open baked enamel metal uprights and shelves on which the artifacts are stored. Primary containers consist of three acid-free plastic boxes with telescoping lids measuring 1 ft³ each. In addition, there is one acidic cardboard box (measuring 1.2 ft³) with a telescoping lid. Boxes are labeled with acid-free paper tags placed in plastic jackets attached to the container. Information is recorded in marker and consists of site name, project name, site numbers, accession numbers, county, and contents. Arrangement of records within primary containers is generally by site number, accession number, and sometimes by box control number.

Secondary containers consist of manila folders, bound notebooks, letter-size mailing envelopes, and acid-free three-ring binders. All, except for the three-ring binders, are labeled directly in pen or marker with contents and site number or project. One manila folder of records is enclosed within a plastic zip-lock bag that is labeled directly in marker with accession number, facility name, and box control number. Many of the records are discolored, torn, and dirty.

Large and small project maps are stored folded with the paper records in acidic manila folders. Report records are stored with the paper records in acidic manila folders.

Photographic Records

Photographic records of military archaeological projects housed with the MHT are stored only at the People's Resource Center. Storage units consist of letter-size file cabinets. Cabinets are labeled with paper tags according to material type (e.g., slides), county, and site number designation. Secondary containers for materials consist of a manila folder and nonarchival slide holders. The manila folder is labeled with site number typed on an adhesive label.

Table 15.
Summary of Records Present in EFA Chesapeake Collections at MHT

Installation Facility	Types of Documentation				Total
	Paper	Reports	Photos	Maps	
NSWC Carderock	0.15	0.13	—	—	0.27
NTC Bainbridge	—	—	—	0.25	0.25
NAWC Patuxent River	1.04	—	0.04	0.21	1.29
Total	1.19	0.13	0.04	0.46	1.81

Slide holders are unlabeled, but individual slides are directly labeled with site number or name.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological materials are accessioned within one week of arrival. Accession numbers are arranged according to collection/year/sequential number.

Location Identification

The location of artifacts within the repository is identified in a directory.

Cross-Indexed Files

Files are cross indexed by accession number, catalog number, and lot number.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used for site-record administration.

Computerized Database Management

DBXL, a state program derived from dBASE, is used for database management. Backups are stored on disk. There is no local network, but one is planned. Copies of files are stored at the Garrett Building and at the People's Resource Center.

Written Policies and Procedures

Minimum Standards for Acceptance

There are written standards for packaging, processing, labeling, and storage of collections.

Curation Policy

There are standards for curation but no overall written plan that addresses receipt, processing, and use of materials.

Records-Management Policy

There is a written records-management policy addressing the guidelines and standards for the curation of documentation.

Field-Curation Guidelines

There are written field-curation guidelines that address field conservation and recommendations for manuals to be used.

Loan Procedures

There are written loan procedures and standard loan forms.

Deaccessioning Policy

There is a written deaccessioning policy and a standard form for the procedure.

Inventory Policy

There is no written inventory policy.

Latest Collection Inventory

Collections are inventoried when they arrive from the field, but a box-by-box inventory of the collections in storage has not occurred since the 1980s.

Curation Personnel

Ronald Orr is the collections manager and the curator for the archaeological collections. Once every week Mr. Orr has the help of four volunteers.

Curation Financing

Curation is financed by the state budget.

Access to Collections

Written and/or verbal permission is needed to view any collections housed at this repository.

Future Plans

Future plans include the construction of the Maryland Archaeological Conservation Facility at the Jefferson Patterson Park and Museum, which is to be completed in 1997. Mr. Orr also plans to use the help of volunteers to upgrade the collections as quickly as possible.

Comments

1. Both the Garrett Building and the People's Resource Center have central heat and air conditioning, but neither has humidity control. The Garrett Building has humidity monitoring devices and plans to acquire dehumidifiers.
2. Neither repository has an integrated pest management system.
3. Neither repository has an intrusion detection and deterrent system, but the People's Resource Center has a 24-hour in-house guard.
4. Both repositories have sprinkler systems for fire suppression.
5. Primary containers mainly consist of acid-free cardboard boxes, but there are a number of acidic cardboard boxes as well. Secondary containers consist mainly of plastic zip-lock bags and paper bags. Labels are generally written directly on the containers.
6. Secondary containers for records consist mainly of acidic manila envelopes. One primary container for records is an acidic cardboard box. There are no duplicate copies of the records stored at separate, secure locations.

Recommendations

1. Clean and appropriately label all archaeological materials according to federal guidelines and standards.
2. Redistribute and repack collections into clearly labeled acid-free cardboard boxes.
3. Arrange, describe, archivally prepare, and place all associated documentation and reports in acid-free cardboard boxes or metal file cabinets according to federal guidelines and standards.
4. Produce and store a duplicate copy of all associated documentation at a separate and secure location.
5. Create an integrated pest management program for both repositories.

Editor's note: The slate tile roof of the Garrett Building was replaced with asphalt tile in 1996. New collections inventories were conducted in 1990 and 1994. More space and greater control of humidity and pest control have been undertaken by Trust staff since the assessment. These include the acquisition of new dehumidifiers for both repositories, ultraviolet filters for lights, a fumigation tent, and 24-hour electronic monitoring devices. Later this fall, the Trust will transfer its collections from the Spring Grove Facility to the Jefferson Patterson Park and Museum. In November of 1997 collections will be placed in the new curation facility that the Museum is constructing. Staff are also continuing with their collections rehabilitation efforts for NSWC Patuxent River collections.

John Milner Associates

Alexandria, Virginia

Repository Summary

Volume of Artifact Collections: 1.7 ft³

Compliance Status: Collections will require partial rehabilitation to comply with existing federal guidelines and standards for collections.

Linear Feet of Records: 0.12 linear feet

Compliance Status: All associated documentation is generally in very good condition, but will require partial rehabilitation to comply with

existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: No human skeletal remains are present.

Status of Curation Funding: A standard curation fee is charged to clients for the project.

Date of Visit: November 9, 1995

Points of Contact: Charles Cheek and Dana Heck

John Milner Associates (JMA) is a private contracting firm that has performed archaeological reconnaissance work on several naval facilities located in Maryland and Virginia, including MCB Quantico and NSWC Indian Head.

Assessment

JMA is located on the fourth floor of the Halifax Office Building in Alexandria, Virginia. The 1400 ft² office space has an artifact holding and washing area, a processing lab, temporary artifact storage area, and offices. Artifact collections are stored in the hallway (Collections Storage Area 1) and in the processing lab (Collections Storage Area 2). Records are stored in boxes beneath a table in the Collection Manager's office (Collections Storage Area 3).

Structural Adequacy

The building is approximately 15 years old with a concrete foundation and brick exterior walls. The flat membrane roof has had leaks in the past, but they have all been repaired. There is no evidence of water damage to either the building or the collections. The building has a total of five floors above grade. Numerous internal wall changes have been made to accommodate changing office spaces. Windows are on all sides of the building, most of which have built-in blinds. The steel window frames have never been replaced and are airtight.

Environmental Controls

Utility systems are all original to the building with no significant improvements or replacements. The building heating system is an electric heat pump. The entire building has heating and air conditioning, with a dehumidifier and humidity gauge in the lab area.

No dust filters are present on the environmental systems. Hazardous chemicals are used in the lab. No built-in ventilation methods are used; fans are used when necessary. The building is regularly maintained by a cleaning service with a full-time maintenance person.

The targeted temperature in the collections storage area is 68° F. Lighting in the room consists entirely of nonfiltered fluorescent lights with plastic shields. The storage area is cleaned weekly by a professional cleaning company.

Pest Management

Precautions are taken against insects and rodents on an as-needed basis. No problems have been encountered in the past, with the exception of some ants near the recycling area.

Security

All people entering the building must pass a check station. This station is attended by security personnel during regular business hours. In addition, anyone needing access to any of the higher floors in the building must be approved at the check station. All major doors in the building possess dead-bolt locks. There is no evidence of unauthorized access through any of the windows or doors, nor have there ever been any episodes of unauthorized entry in the building.

Fire Detection and Suppression

Manual fire alarms and fire extinguishers are located throughout the building, including one extinguisher in the dry laboratory room. A sprinkler system is also present. No fire extinguishers are present in any of the three collections storage areas.

Artifact Storage

Collections from MCB Quantico and NSWC Indian Head are both prehistoric and historic in nature (Table 16).

Storage Units

Archaeological materials are stored stacked along a wall in the hallway or in small hanging plastic bins in the processing lab. Records are stored in boxes on the floor underneath a table.

Table 16.
Summary of Material Classes Present in
EFA Chesapeake Collections at JMA

Material Class	Facility (%)	
	MCB Quantico	NSWC Indian Head
<i>Prehistoric</i>		
Lithics	80	75
Ceramics	0	20
<i>Historical Period</i>		
Ceramics	20	5
Total	100	100

Primary Containers

Approximately 1.7 ft³ of archaeological artifacts recovered from two investigations are stored at this facility in acid-free boxes. Labels for the containers consist of acid-free slips of paper written in marker and inserted in adhesive plastic holders. Labels are written directly in marker on the large plastic bags. Labels for the plastic bins consist of index cards written in black marker and inserted into label holders.

Secondary Containers

All secondary containers for all the artifact collections are plastic zip-lock bags with labels written directly on the bag in black marker.

Laboratory Processing and Labeling

All of the artifacts have been cleaned and labeled. Many of the plastic bags also have acid-free paper inserts with the same information as that recorded on the bags.

Human Skeletal Remains

No human skeletal remains from these installations are curated by JMA.

Records Storage

Approximately 0.12 linear feet of associated archaeological documentation and reports accompany the collections from these facilities. All documentation is stored in one of four boxes underneath a table in the Collections Manager's

office. Each box holds the records from a particular state (Table 17).

Table 17.
Summary of Records Present in
EFA Chesapeake Collections at JMA

Documentation Type	MCB Quantico	NSWC Indian Head
Survey Records	0.01	—
Excavation Records	—	0.03
Analysis Records	0.01	0.03
Photographic Records	0.02	0.02
Total	0.04	0.08

The original field notes are kept in a three-ring binder and stored with the copies. These copies are generally kept in envelopes composed of a durable spun-bonded olefin, commonly called Tyvek®. The envelopes are sealed with reusable adhesive tabs.

Paper Records

All records have been duplicated on acid-free paper and placed in acid-free folders. All paper records have been placed in the envelopes described above along with the originals.

Photographic Records

Negatives and slides are all labeled, enclosed in archival-quality plastic sleeves, and stored in acid-free folders. Photographic records are stored with the rest of the project files in the envelopes and archival boxes described above.

Collections-Management Standards

JMA does not view itself as a permanent curation facility and, therefore, does not have many of the federally recommended guidelines and procedures in a written policy for internal use.

Registration Procedures

Accession Files

Accession files are kept for the collections; however, the process varies by individual client's specifications.

Location Identification

The location of the collection is identified in the accession file.

Cross-Indexed Files

Files are cross indexed by state and project.

Published Guide to Collections

A published guide to the collections has never been produced outside of the project reports.

Site-Record Administration

JMA uses the Smithsonian Institution trinomial site-numbering system.

Computerized Database Management

Computerized database management programs are used.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards exist because all collections are from in-house projects and are stored only on a temporary basis.

Curation Policy

State guidelines are followed for the processing and curation of collections and records.

Records-Management Policy

Associated archaeological records are filed by state and project. An access policy does not exist; however, only personnel are able to freely use the records. Duplicate copies of the records are made on acid-free paper.

Field-Curation Guidelines

No formal field curation guidelines have been written.

Loan Procedures

No collections have ever been loaned.

Deaccessioning Policy

No deaccessioning policy exists.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

Each collection is inventoried upon completion of the project.

Curation Personnel

JMA does not have a full-time curator for the archaeological collections, as it does not consider itself a permanent curation facility.

Curation Financing

Clients are charged for the supplies and time required to process and curate the collections.

Access to Collections

Staff have access to the collections, and researchers are granted access upon request.

Future Plans

There are no future plans at this time.

Comments

1. There is no integrated pest management policy.

2. Security systems for the building and the offices of JMA are not adequate for the protection of the artifact collections that are stored in the hallway.

3. No fire extinguishers are present in the collections storage areas.

4. Archival-quality products are used in the processing and curation of the collections.

Recommendations

1. Develop a pest management plan that includes both regular monitoring and control methods.

2. Implement adequate security measures to protect the integrity of the artifact and records collections, including intrusion alarms for the building and the offices housing the collections.

3. Install a dry-chemical fire extinguisher in or near all three of the collections storage areas.

4. Keep duplicate copies of records separate from the originals.

Editor's note: Since this assessment, all EFA Chesapeake records have been moved to a standard, metal filing cabinet and have been placed in the dry laboratory room. All records are arranged by state.

Parsons Engineering Science, Inc.

Fairfax, Virginia

Repository Summary

Volume of Artifact Collections: 0.45 ft³

Compliance Status: Artifacts require no rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Artifacts are being stored in archival primary and secondary containers that are adequately labeled. However, the environment in which the objects are being held does not have established controls for temperature or humidity. The objects should be moved to a curation facility with established and monitored environmental controls.

Linear Feet of Records: 0.25 linear inches

Human Skeletal Remains: No human skeletal remains recovered from EFA Chesapeake facilities are curated in this repository.

Status of Curation Funding: Curation of archaeological collections is included in the contract budget.

Date of Visit: September 10, 1996

Points of Contact: Michael Petraglia and Carter Shields

Parsons Engineering Science is an archaeological contracting firm with multiple offices in more than twenty-five states and several foreign countries. They have conducted numerous archaeological investigations for U.S. military installations and facilities. The offices, laboratory, and temporary artifact storage area for the headquarters of Parsons cultural resources division is located at an office building in Fairfax, Virginia. Because their laboratory at this location is used for processing and temporary holding only, Parsons has no plans to expand the facility. At this time Parsons is holding a total of 0.45 ft³ of artifacts and 0.25 linear feet of

associated records relating to archaeological projects conducted on EFA Chesapeake facilities.

Assessment

Parsons operates out of a privately owned 60,000 ft² office building constructed around 1981, in Fairfax (Figure 19). The ground level space that Parsons laboratory occupies comprises 2,000 of the 36,000 ft² used by the company at this location. Multiple activity areas are present, including artifact holding, washing, processing, temporary storage, supplies storage, records study, records storage, and offices.

Structural Adequacy

The repository has a concrete foundation, and exterior walls are composed of concrete block and steel framing with a brick exterior. The roof, which



Figure 19. Exterior view of Parsons Engineering Science.

is original to the building, is covered with built-up asphalt and has occasionally required repairs. Currently there are no cracks or leaks. There have been no major renovations or upgrades to the building, only minor interior wall remodeling to accommodate changes in office staff. There are multiple exterior windows and doors throughout the building.

The collections storage/processing area floors are concrete covered by industrial carpeting. The washing area is painted concrete. All offices and the records storage/library area are also carpeted. Interior walls are painted plasterboard, and all ceilings are suspended acoustical tiles. There is a set of glass and metal doors to the storage and processing area, and a steel door to the washing area. The remaining interior doors are paneled wood, and the exterior doors are metal-framed glass. Window frames throughout the building are steel, and they appear to be airtight. There is only one window present in the collections area, and none are located in the library/records room. Storage/processing areas are virtually filled to capacity with collections.

Environmental Controls

The building has central air and heat equipped with dust filters. Heat and humidity are not monitored or regulated in the storage/processing area, because the environmental controls cannot be set for individual rooms. The entire building is professionally cleaned on a daily basis. All windows are shaded, and additional lighting is provided by overhead nonfiltered fluorescent tube fixtures.

Pest Management

The entire building is professionally sprayed biannually for pests. Parsons staff monitors for infestations on an as-needed basis. There were no signs of pest infestations during the assessment.

Security

Security measures for the repository consist of sealed exterior doors with an intrusion alarm system tied to the police station and key locks on interior doors throughout the building. Staff members monitor access to the collections area.

Fire Detection and Suppression

Fire detection measures consist of smoke detectors, manual fire alarms, and a main alarm tied to the fire department. Fire suppression measures consist of a heat-activated wet sprinkler system and manual fire extinguishers located throughout the building.

Artifact Storage

Storage Units

Artifact collections are stored on multiple sets of adjoining, movable, enamel metal shelving. Units measure 1.5 x 7 x 4 feet (l x w x h) and have from five-to-six evenly spaced shelves. EFA Chesapeake collections total 0.45ft³ (Table 18).

Table 18.
Summary of Material Classes Present in
EFA Chesapeake Collections at Parsons
Engineering Science

Material Class	%
<i>Prehistoric</i>	
Ceramic	1
Lithic	99
Total	100

Primary Containers

Artifact collections are stored in an acid-free cardboard box (1 ft³ in volume) with a telescoping lid. The primary container label is adhesive-backed paper that contains the project name typed in black. Artifacts are generally well packed and padded,

although some nesting of secondary containers was observed.

Secondary Containers

Secondary containers for the artifact collections consist entirely of plastic zip-lock bags directly labeled with the project name.

Laboratory Processing and Labeling

Objects have not been individually labeled due to their small size. All artifacts have been cleaned. Paper inserts are acid free and are written in indelible ink with project, date, investigator, and provenience.

Human Skeletal Remains

Parsons has not encountered any human skeletal remains during their projects on EFA Chesapeake facilities.

Records Storage

Original records for EFA Chesapeake projects are housed at Parsons in the library/records storage room on the second floor, in file cabinets outside the library/records area, and in staff offices.

Paper Records

Paper records stored at Parsons for EFA Chesapeake consist of one bound report and one three-ring binder containing original field notes on acid free paper (1 linear inch).

Photographic Records

Twelve black-and-white photographs from EFA Chesapeake facilities are stored in archival sleeves at Parsons. Negatives and a photolog are also stored with the photographs.

Report Records

The only report reviewed for EFA Chesapeake was retrieved by staff from the library and examined in the laboratory/processing area.

Collections-Management Standards

Registration Procedures

Accession Files

Parsons Engineering Science is not a permanent repository; therefore, they do not accession collections.

Location Identification

Artifact primary containers are on shelves labeled with project names.

Cross-Indexed Files

Some files are cross indexed by date and project.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

There are no site records at Parsons beyond those produced for a project. Generally, original documents are retained by the sponsoring agency, and Parsons only retains a copy of the report and business files.

Computerized Database Management

A computerized database is in place and is used to inventory and locate artifacts from projects.

Written Policies and Procedures

Minimum Standards for Acceptance

Not applicable.

Curation Policy

Artifacts are curated following the standards of the curation facility that has been designated as the permanent repository.

Records-Management Policy

There is a written records-management policy addressing the guidelines and standards for the processing of documentation.

Field-Curation Guidelines

There are written guidelines that address field conservation and recommendations for manuals to be used.

Loan Procedures

There are no written loan procedures, although study of the collections is possible for researchers with legitimate related research scope and permission from a collections owner.

Deaccessioning Policy

Not applicable.

Inventory Policy

There is no written inventory policy, although collections are fully inventoried as they are acquired.

Latest Collection Inventory

Collections are inventoried when they arrive from the field.

Curation Personnel

Ms. Carter Shields, the laboratory director at Parsons, manages all aspects of the archaeological collections in consultation with the project managers.

Curation Financing

Curation funding is included in each project's contract budget.

Access to Collections

Access to the collections is limited to Parsons cultural resource staff and researchers by permission. A written letter of intent is necessary, and access to the collections is supervised.

Future Plans

Because its building space is for processing and temporary storage only, Parsons Engineering Science has no plans to upgrade its space to include curation-level permanent storage.

Comments

1. The building in which Parsons Engineering Science leases space has central heat and air conditioning but no humidity control. In addition, Parsons staff members have no access to any of the building's environmental monitoring controls.
2. There is an integrated pest management system.
3. Security is adequate, with key locks and intrusion alarms, but not ideal. Custodial staff have access to collections, and the door to the collections area is made of glass.
4. Fire detection and sprinkler systems for fire suppression are in place.
5. Primary containers consist of acid-free cardboard boxes and secondary containers for artifacts consist of plastic zip-lock bags with acid-free paper inserts. Labels are generally written directly on the containers.

Recommendations

1. Inventory and processing of the EFA Chesapeake collections should be completed as soon as possible so that they can be sent to an appropriate long-term curation facility where they can be maintained in a more secure and stable physical environment.
2. Wood shelves housing the reports should be lined with an inert material to prevent future long-term damage from acids, which can leech onto the records. Original records are stored at separate, secure locations.
3. Control humidity with a dehumidifier.

Editor's note: Parsons staff will deliver all EFA Chesapeake materials to the Virginia Department of Historic Resources by the end of 1997.

Virginia Department of Historic Resources

Richmond, Virginia

Repository Summary

Volume of Artifact Collections: 8.8 ft³

Compliance Status: Collections will require partial rehabilitation to comply with existing federal standards and guidelines for curation. Seventy-five percent of the primary containers and approximately five percent of the secondary containers are acidic and should be replaced with acid-free boxes and appropriate zip-lock polyethylene plastic bags. Additionally, all of the artifacts have been cleaned, but less than twenty-five percent of the relevant artifacts have been labeled.

Linear Feet of Records: 0.1 linear feet

Compliance Status: Associated records will require complete rehabilitation to comply with

existing federal guidelines and standards for archival preservation. Records should be housed in acid-free folders and duplicated on acid-free paper, with a copy stored at a separate, secure location.

Human Skeletal Remains: No human skeletal remains associated with EFA Chesapeake facilities are stored at the Virginia Department of Historic Resources.

Status of Curation Funding: Curation is financed through several methods. Contractors are charged a one-time curation fee, money is obtained through general state funds, and funding is acquired through conservation contracts.

Date of Visit: May 9, 1995

Points of Contact: Keith Egloff and Beth Acuff

Assessment

The collections are curated in a facility located approximately one mile east of the VDHR offices. Associated records are housed in two separate buildings in the VDHR office complex. Each is described separately.

Repository 1—Extra Attic, Tobacco Row

This three-story, 90,000 ft² repository (Figure 20) includes an 8,000 ft² artifact collections storage area located on the second floor of the building. The main artifact storage area is separated from a smaller area housing field equipment and supplies by a double-wide door frame. The building also contains a receiving/loading dock, a field equipment storage area, exhibit storage, offices, restrooms, and a freight elevator.

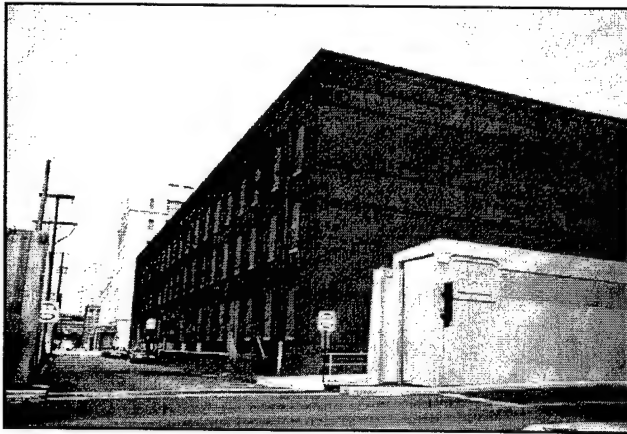


Figure 20. Exterior view of Tobacco Row repository.

Repository 2—Morrison Row Offices

Offices, records study/storage areas, rest rooms, and elevators are the types of activity areas located within this multistory 8000 ft² building (Figure 21). There are three floors above grade and one below grade, including the 216 ft² records study/storage area for the site files and field records. In addition, the 225 ft² photo archives room is located on the bottom floor.

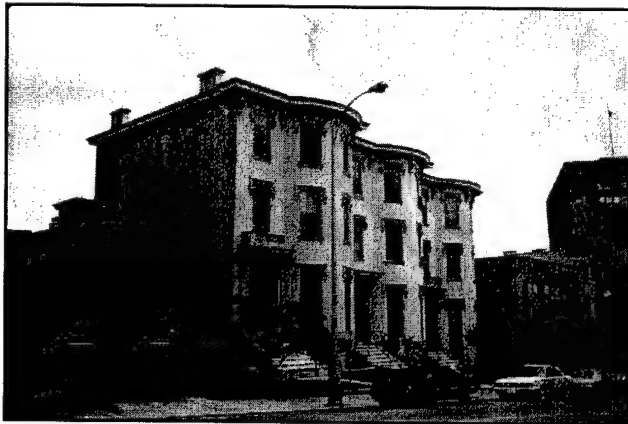


Figure 21. Exterior view of Morrison Row repository.

Structural Adequacy

Repository 1—Extra Attic, Tobacco Row

Originally constructed in 1899 as part of the tobacco industry, this three-story building is currently used as a state storage repository. It is located approximately one mile east of the VDHR offices in what is known locally as Tobacco Row. It has a concrete foundation, brick exterior walls, and a built-up tar and asphalt roof. The collections storage area is located on the second floor of the facility. Interior walls are

constructed of brick, and the ceiling is composed of closely spaced 4-x-12-inch wood beams. The floors on the second and third stories are wood and have a maximum load capacity of 200 pounds per square foot.

There are multiple windows in the repository, all of which have been covered with plywood on the interior side and with metal shutters on the exterior. The assessment team entered the building by one of two large, metal, rolling overhead garage doors on the south side of the repository. Two interior doors, both on the southeast wall, lead to the collections storage area. One is a single metal panel door and the other is a standard size metal rolling overhead garage door. Additionally, a double-wide door frame separates the main collections storage area from a smaller area housing field equipment and supplies.

Very little renovation has occurred in the collections storage area itself. However, the interior of the building was renovated in 1986–1987 when walls were constructed to form offices and partitions for individual storage areas. Additionally, the electrical and plumbing systems were updated, the latter to include a sprinkler system. The overhead pipes for the dry pipe sprinkler system are not directly over the collections but rather extend down the center of a row.

The collections storage area is currently filled to approximately seventy percent capacity. The staff feel that adequate space is available for storage of artifact collections at this time but note that they are receiving more collections from contracting firms and colleges that no longer have room to store them. The repository is structurally sound and has ample floor space to serve as a collections storage repository. However, several rehabilitation measures need to be undertaken if it is to remain a long-term curation repository.

Repository 2—Morrison Row Offices

The VDHR Morrison Row offices were constructed in the 1850s as private townhouses used by individuals involved in politics and government. There are two collections storage areas within the Morrison Row Offices—a records storage area and a photographic storage area. Both the records storage area and the photograph storage area are located in the basement of one of these townhouses.

The repository has three floors above grade and one below grade. Internal renovations took place

four years ago when ceilings were lowered, several new walls were added, an elevator was installed, and the plumbing and electrical systems were upgraded. The foundation is brick, and the roof covering is composed of built-up asphalt that has been replaced over the years. Exterior walls are constructed of brick overlaid with stucco. Interior walls in the repository consist both of plaster and plasterboard, the newer walls being composed of plasterboard. The assessment team entered the repository through a wood framed door with an etched glass panel located in the front of the building.

In the records storage room, the floor is covered with tile and there is a suspended acoustical-tile ceiling. There are two windows measuring 4 x 6 feet located on the southeast wall. Both windows are equipped with blinds. There are two interior wood panel doors, located on the northwest and southeast walls. Both doors exit into interior hallways. The records storage area is approximately sixty percent filled.

In the photograph storage room, the ceiling is concrete and plaster and the windows are wood frame. The room has two south-facing windows, each measuring 3 x 5 feet, one of which is fitted with a window air conditioning unit. The windows are equipped with shades. There is one wood panel door leading to the repository; it does not have a lock. The photograph archives room is filled to approximately seventy percent capacity.

Environmental Controls

Repository 1—Extra Attic, Tobacco Row

Temperature is controlled in certain parts of the repository (e.g., office space) by a central air conditioning system. However, there are no temperature controls in the artifact collections storage area. The staff indicate that the temperature can fluctuate forty-five degrees. Humidity is not controlled in the facility as a whole but is monitored in the collections storage area by a hygrothermograph. Staff maintain that there is minimal fluctuation in humidity on a daily basis and that the relative humidity range is 50–60% year round. There are no dust filters for the air conditioning system, and dust is evident on box lids. Lighting is provided by uncovered fluorescent tubes. The facility as a whole is maintained by the building

manager, but the collections storage area is kept clean by curatorial staff on an as-needed basis.

Repository 2—Morrison Row Offices

Central air conditioning and forced air heat serve as temperature controls in the Morrison Row offices and collections storage areas. Temperature and humidity are not monitored or controlled, but staff contend that temperatures range between 68° and 72° F and relative humidity stays near 40%. Standard furnace filters serve as dust filters for the facility. Fluorescent tubes covered with nonfiltered plastic shields, in addition to natural light from the windows, provide illumination for the collections storage areas. Both the facility and the collections storage areas are cleaned on a daily basis by a state janitorial service, and physical building maintenance is the responsibility of the grounds crew.

Pest Management

Repository 1—Extra Attic, Tobacco Row

No integrated pest management program is in place; however, bait boxes are randomly placed throughout the building, occurring more frequently in the common hallway. The assessment team was informed that insect infestation has never been a problem in the collections storage area.

Repository 2—Morrison Row Offices

There is no integrated pest management program for this repository, but no evidence of pest infestation was noticed during the assessment. Precautions are taken on an as-needed basis.

Security

Repository 1—Extra Attic, Tobacco Row

A building manager is stationed at the Extra Attic facility eight hours a day, five days per week. If the staff want to enter the building off hours, they must enter a code into a keypad that records who enters. Every client using the repository is provided with a separate and specific code. Additionally, surveillance cameras are placed in strategic positions through the repository. One is located in the stairwell outside the collections storage area. Exterior doors to the repository have both key and dead-bolt locks. The interior metal panel door to the collections storage

area is fastened with a key lock, whereas the smaller interior overhead rolling garage door is secured with a padlock. The walls containing the interior overhead garage doors and those separating portions of each client's storage area do not fully extend to the ceiling and thus pose a security risk. Approximately four feet of space exist between the tops of these walls and the ceiling. This space is covered with wire mesh but this measure will not prevent unauthorized access.

Repository 2—Morrison Row Offices

Security measures include motion detectors, simple window locks, controlled access, and key locks on the exterior doors and the interior doors of the records storage area. There is no lock on the door to the photograph archives room.

Fire Detection and Suppression

Repository 1—Extra Attic, Tobacco Row

Manual fire alarms located throughout the repository constitute the fire detection system, whereas fire extinguishers (four per floor) and a dry pipe sprinkler system are available to suppress fire. There is one fire extinguisher located in the door frame separating the collections storage area and the smaller area housing field equipment and supplies.

Repository 2—Morrison Row Offices

The fire detection system in the repository consists of manual fire alarms and an electrical control panel that monitors sensors throughout the building. Fire suppression is accomplished by fire extinguishers and a sprinkler system located throughout the facility. No fire extinguisher is present in the records storage area; one is available in the hallway outside. Likewise, there is no fire extinguisher in the photograph archives room, but there is one located immediately outside in the hallway.

Artifact Storage

Storage Units

Artifact storage units consist of open enameled metal shelving units that measure 1.5 x 3.5 x 7.0 feet (l x w x h). Shelving units are numbered consecutively with adhesive tags that are attached to the uppermost shelf

of each unit. Artifact boxes are stacked two high on the shelves.

Primary Containers

Acid-free boxes (87%) and acidic cardboard boxes (13%), both with telescoping lids and a volume of 1.1 ft³, serve as primary containers. Box labels consist of either direct labels or manila tags that are directly labeled and then stapled or taped to the fronts of the containers. Information is written in marker and includes site number, provenience, and box number. Collections (Table 19) are arranged alphabetically by county.

Table 19.
Summary of Material Claasses Present in
EFA Chesapeake Collections at VDHR

Material Class	%
<i>Prehistoric</i>	
Lithic	70
Ceramic	9
Faunal	19
Botanical	1
<i>Historical Period</i>	
Ceramics	1
Metal	1
Plastic	1
Rubber	1
Total	100

Secondary Containers

Several types of secondary containers are in use, the majority (88%) being 2- and 4-mil zip-lock polyethylene plastic bags. The remaining secondary containers (12%) are paper bags. All secondary containers have been labeled directly with marker, and many have information tags recorded on acidic paper placed inside. Label information on the secondary containers most often consists of the site number. A catalog number, site name, provenience, date of recovery, and name of recorder are sometimes included.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, and eighty-five percent of the relevant artifacts have been

directly labeled with site numbers using india ink. All have been sorted by provenience and/or material class within provenience.

Human Skeletal Remains

No known human skeletal remains associated with EFA Chesapeake collections are stored at VDHR.

Records Storage

There are approximately 0.10 linear feet of records from NSWC Dahlgren currently curated at VDHR. These include 0.08 linear feet of paper records (administrative, maps, background, internal notes), 0.02 linear feet of report records, and four slides.

Records at VDHR are arranged in two filing systems: field-note files and the county files. The field-note files contain records deposited by researchers upon completion of fieldwork. The county files include artifact inventories generated by VDHR for those sites for which materials are being curated. All photographic records, maps and/or oversized documents, and draft reports are housed with the paper records that are stored in the field note files.

In addition to these records, VDHR maintains the site files for the Commonwealth of Virginia and the reports generated by all archaeological work in the state. Site forms for all described sites located on naval facilities in Virginia are in these files. The site files are stored in the Morrison Row records storage area. Additionally, all archaeological work performed under contract to naval facilities in the Commonwealth of Virginia is described in numerous reports located at VDHR's report library.

Repository 2—Morrison Row Offices

This repository contains the field-note files, the state site files, and the project report library

Paper Records

Paper records are stored in enamel metal legal-size file cabinets measuring 1.5 x 2.2 x 5.1 feet (l x w x h). All of the paper records are organized by site number within each county. File drawers contain acidic paper labels in metal tag holders. Label information is typed and includes the file system name (e.g., field-note files, state site files) and counties contained

within the specific drawer. Secondary containers housing field-note files consist of acidic manila file folders that are directly labeled with pen and/or marker. Label information includes county name and site number information. Acidic expandable file folders hold the state site files. These secondary containers include typed adhesive labels listing county and site number information. Paper records include administrative records, excavation and survey records, field notes, analysis records, state site forms, small-scale site maps, and draft reports. None have been systematically duplicated, and contaminants such as staples and paper clips are present.

Photographic Records

Photographs are stored in the VDHR photograph archives room in the Morrison Row offices. Storage units consist of two 1.5 x 3 x 6.5 feet (l x w x h) metal cabinets with double locking doors. Both cabinets are set on wood risers.

In the photograph archives, primary containers consist of plastic and acidic pressed-fiber, three-ring binders. Each binder is labeled with the first letter of the county, or the county code, on a tag attached by tape. Secondary containers consist of a combination of archival and nonarchival plastic sleeves. This collections storage area has a small number of slides, negatives, and contact sheets. Negatives and contact sheets are unlabeled, but slides are directly labeled in marker with the site number.

Project Reports

Final project reports are stored in the report library in nonarchival magazine holders on enamel metal shelving units. Each measures approximately 2 x 1.5 x 7.5 feet (l x w x h).

Collections-Management Standards

Registration Procedures

Accession Files

None.

Location Identification

The location of the collections within the repository is not identified in any paper files. However, the

location is documented in a dBASE program for the boxed collections.

Cross-Indexed Files

None.

Published Guide to Collections

There is no published guide to the collections other than the project reports.

Site-Record Administration

The Smithsonian Institution trinomial site-numbering system is used.

Computerized Database Management

A dBASE collections inventory system is used. Back-up copies are created on disk each time the system is used and stored in a different location within the same complex.

Written Policies and Procedures

Minimum Standards for Acceptance

VDHR requires that all incoming artifacts be processed and packaged in acid-free boxes and polyethylene plastic zip-lock bags. Additionally, VDHR recommends that a duplicate copy of any associated documentation be produced and included with the artifacts, although this suggestion has not been followed by everyone depositing collections.

Curation Policy

There is a comprehensive plan for curation that includes receipt of materials, processing of materials, use of materials, and future preservation.

Records-Management Policy

The archivist follows departmentwide guidelines for the management of associated records.

Field-Curation Guidelines

These guidelines are included in the document that details the minimum standards for acceptance of collections.

Loan Procedures

Loans are granted to qualified institutions. A standard loan form must be completed. If the loan is granted, it is possible to obtain an extension, depending upon the situation.

Deaccessioning Policy

None.

Inventory Policy

There is an inventory policy in place.

Latest Collection Inventory

The collections were last inventoried in 1996. As collections arrive at VDHR, a form is filled out containing information that will eventually be entered into the collections inventory database program.

Curation Personnel

Beth Acuff is the full-time curator for archaeological collections. Ms. Acuff supervises five staff members and various work-study students, interns, and volunteers.

Curation Financing

Curation is financed through fees to contractors, general state funds, and monies from conservation contracts. Staff feel that it is important to attack the backlog of inadequately cataloged collections but feel that current funding is insufficient to do so.

Access to Collections

Access to collections is controlled by Ms. Acuff and Keith Egloff. Anyone wishing to view collections must first contact these individuals. Access to the collections at VDHR by researchers is allowed and is usually supervised.

Future Plans

Overall, curatorial personnel feel that curation of existing collections has a higher priority than the recovery of archaeological collections. Additionally, maintenance and use of the collections for educational purposes are viewed as the primary responsibilities associated with the collections. The Governor of Virginia created a "strike force" to

request position papers from different state agencies stating their needs. VDHR submitted position papers for the underwater archaeology program, archives management, and collections management. If the position papers for archives and artifact collections management are accepted, VDHR will receive funding and will be able to address its curation needs.

Comments

1. None of the repositories have proper environmental controls.
2. There are ground floor nonfiltered windows in the records storage area in the Morrison Row repository, creating a security risk.
3. The Extra Attic, Tobacco Row building is structurally well equipped to house archaeological collections.
4. No integrated pest management program exists, although no infestations were noticed in any of the repositories by the assessment team.
5. All of the artifact primary containers and the majority of the secondary containers are archival-quality.
6. None of the associated records have been systematically duplicated.
7. Most of the relevant artifacts (87%) still need to be labeled.

Recommendations

1. Install an HVAC system in the artifact storage area in the Extra Attic, Tobacco Row repository. If that is not feasible, install central air conditioning and a dust filtration system and purchase a commercial dehumidifier.
2. The windows in the Morrison Row records storage area are at ground level, presenting a security risk. Either seal the windows shut or install metal bars to prevent unauthorized access.
3. Institute an integrated program for pest management, including both monitoring and control, at each repository.
4. Generate finding aids for each record system, and make them available to anyone wishing to use the records.
5. Duplicate associated records on acid-free paper or microfilm, and store in acid-free folders. Store one copy at a separate, secure location.
6. Label relevant unlabeled artifacts to prevent loss of provenience.

Editor's note: In January 1998 EFA Chesapeake collections will be transferred to a new collections wing. This new repository will be secured by staff and will satisfy many of the recommendations noted for this facility.

Findings Summary for Eight U.S. Navy EFA Chesapeake Facilities

The eight EFA Chesapeake facilities have 20 archaeological collections located in 17 repositories in three different states (Table 1). The assessment team visited each repository and performed a building evaluation, survey questionnaire, and collections and documentation evaluation, as applicable, at each.

- All 17 repositories evaluated approach the standards of 36 CFR Part 79. However, none possess enough of those standards to be considered appropriate long-term curation facilities.
- To achieve proper care, collections could be coalesced into a single repository per state, preferably in the same state as the EFA Chesapeake facilities whose collections they house.
- Artifact collections in all repositories require some type of rehabilitation, but approximately ten percent require complete rehabilitation.
- Documents in four of the 17 repositories that hold records are in poor condition and need to be completely rehabilitated.
- Management controls, including a master collection and database for EFA Chesapeake facilities, do not exist and should be created immediately.

Infrastructure Controls

None of the repositories were designed or adapted to the requirements of a modern curation center. EFA Chesapeake collections are housed in a variety of building types—laboratories, modern multistory office buildings, storage spaces, renovated military buildings, and warehouses. With rare exceptions, these buildings were neither designed nor properly adapted to the requirements of a modern curation center. In most cases, institutions use whatever space they can acquire from their governing bodies; they do not have the financial capability to acquire additional space suitable for collections management needs.

Most repositories receive some measure of maintenance, though on an irregular basis. At most facilities, offices are cleaned by professional companies, but maintenance of the collection storage areas is the responsibility of curatorial staff.

None of the repositories are fully in compliance with the mandates of 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Most of the repositories have partial elements for compliance with the major standards (e.g., proper environmental controls, pest management, security, and fire safety) included in federal regulations. These elements, and how well they are met, are discussed and summarized below.

A final measure of the care afforded collections can be ascertained by examining the professional staff devoted to collections management

and curation. Six of the 17 repositories employ full-time curators for the care of archaeological collections.

Environmental Controls

Environmental controls exist at all of the repositories inspected (Table 20). However, the degree to which each repository addresses certain concerns is variable. Ten repositories have dust filters on furnace and/or air conditioning vents. All 17 of the repositories have heat and 16 have air conditioning systems. All of the repositories have experienced temperature and humidity fluctuations, but none

Table 20.
Environmental Controls Present in Evaluated Repositories

Repository	Dust Filters	Heat	AC
MHT		X	X
MHT	X	X	X
Greenhorne and O'Mara	X	X	X
NSWC Carderock		X	X
NSWC Dahlgren	X	X	X
Goodwin and Associates	X	X	X
VDHR	X	X	X
VDHR		X	X
NSWC Indian Head	X	X	X
NSWC Indian Head	X	X	X
JMA		X	X
KCI Technologies	X	X	X
Historic Annapolis Foundation	X	X	X
William and Mary Center for Archaeological Research		X	X
JPPM		X	X
JPPM		X	
Parsons Engineering Science	X	X	X

have had problems severe enough to affect collections.

Pest Management

All 17 repositories evaluated have some form of pest management program that requires spraying on a regular or as-needed basis. The types of chemicals used for pest management, their frequency of use, and the attendant hazard to personnel and collections are beyond the scope of work and should be investigated. Severe pest infestation, and subsequent

damage to the collections, was not noted at any of the repositories.

Security

Federal regulations require a number of security measures for the proper safeguarding of archaeological collections. These measures include door locks, motion detectors, intrusion alarms, limited access, and window security. None of the 17 repositories met all federal guidelines for security (Table 21). Six possess intrusion alarms, eight make use of a guard or patrol service, and all 17 possess locks on interior and exterior doors and windows. Approximately four have areas that are limited to entry by only certain personnel, and three use motion detectors. None reported major cases of unauthorized entry that resulted in the removal of collections.

Fire Safety

All of the repositories possess at least one fire detection measure (Table 22). For example, 12 use smoke detectors, one uses heat sensors, and 14 have regularly inspected fire extinguishers at key locations in both the repository and collections area. In addition, eight have sprinkler systems in place, and 11 make use of fire alarms that are wired to the fire department.

Artifact Curation

Only two of the repositories (Goodwin and Associates and Parsons) have properly prepared EFA Chesapeake artifact collections for long-term curation. For the remaining 15 repositories, most of the primary containers are varying-size acidic cardboard boxes that were frequently overstacked, overpacked, compressed, and torn. Not all primary containers included adequate label information.

Although approximately seventy-seven percent of the secondary containers used to house EFA Chesapeake collections are zip-lock bags, many are of only 2-mil thickness and have begun to suffer damage. Other secondary containers found include paper bags (23%). Some materials are packaged loose in primary containers and in paper envelopes. The wide variety of nonarchival containers led to a difficulty in inventorying, and the continuation of

Table 21.
Security Measures Present in Evaluated Repositories

Repository	Alarm	Guard	Motion Detector
Maryland Historic Trust		X	
Maryland Historic Trust		X	
Greenhorne and O'Mara	X		X
NSWC Carderock		X	
NSWC Dahlgren	X	X	
Goodwin and Associates	X		
Virginia Department of Historic Resources		X	X
Virginia Department of Historic Resources			X
NSWC Indian Head		X	
NSWC Indian Head			
John Milner and Associates			
KCI Technologies	X		
Historic Annapolis Foundation	X	X	
William and Mary Center for Archaeological Research			
Jefferson Patterson Park and Museum			
Jefferson Patterson Park and Museum		X	
Parsons Engineering Science	X		

Table 22.
Fire Safety Measures Present in Evaluated Repositories

Repository	Alarm	Fire Extinguisher	Smoke Detector	Heat Sensor	Sprinkler
Maryland Historic Trust	X	X	X		X
Maryland Historic Trust	X	X	X		X
Greenhorne and O'Mara	X	X			X
NSWC Carderock		X	X		
NSWC Dahlgren		X			
Goodwin and Associates	X	X	X		
Virginia Department of Historic Resources	X	X			X
Virginia Department of Historic Resources	X	X			
NSWC Indian Head	X		X	X	X
NSWC Indian Head			X		
John Milner and Associates	X				X
KCI Technologies	X	X	X		X
Historic Annapolis Foundation		X	X		
William and Mary Center for Archaeological Research	X	X	X		
Jefferson Patterson Park and Museum		X	X		
Jefferson Patterson Park and Museum		X	X		
Parsons Engineering Science	X	X	X		X

these conditions eventually will contribute to the deterioration of the collections.

Six steps are necessary for the most basic physical stabilization of the majority of archaeological material remains: (1) cleaning (where appropriate), (2) sorting, (3) direct labeling of each artifact, (4) repackaging the material properly, including labels, (5) creating acid-free label inserts for each secondary container, and (6) boxing the materials in archival containers and labeling the primary containers. Physical stability is ensured by proper storage conditions (e.g., in a controlled environment). All collections require at least partial rehabilitation to comply with federal regulations.

Human Skeletal Remains

No human skeletal remains were found among EFA Chesapeake collections.

Records Curation

EFA Chesapeake associated records encompass approximately 16.9 linear feet. Although some attempts at appropriate preservation have been made at most repositories, archival-quality protocols were not observed at any of the 17 repositories. In only limited circumstances have the original paper records been duplicated. Paper documents are not housed within acid-free folders, contaminants are present, maps are not always stored flat in metal cases, and photographic materials have not always been isolated and stored in chemically inert sleeves and proper environment. Three collections of associated documentation require complete rehabilitation to comply with federal standards and archival practices.

Environmental controls that meet the minimum federal standards are absent in most of the repositories that curate associated documentation. All repositories have suffered humidity and temperature fluctuations. Records readily absorb and release moisture, leading to expansion and contraction, dimensional changes that accelerate deterioration and promote major visible damage such

as cockling paper, flaking ink, warped covers on books, and cracked emulsion on photographs.

Management Controls

Basic collections management tools (e.g., accession records, inventories, and written policies and procedures for curation, records management, and loans) exist at eight of the 17 applicable repositories. In some cases these tools exist only as field-curation guidelines, which are not focused on preparing collections according to 36 CFR Part 79. Therefore, many of the examined repositories have no long-term plan for the management of these resources. Most of the repositories evaluated are contract firms and are storing materials on a temporary basis until more suitable, long-term curation facilities can be found. The responsibility for long-term curation must be honored by the federal managers and corrected immediately. Failure to meet elementary curation needs and responsibilities has led to substandard care for many of the EFA Chesapeake archaeological collections.

Prior to this collections assessment, EFA Chesapeake did not know the extent, locations, or conditions of their archaeological collections. EFA Chesapeake personnel should be commended for recognizing this problem and addressing it, but now that specific deficiencies have been identified, action must be taken to protect this aspect of our national heritage.

At a minimum, a plan of action for the long-term management of EFA Chesapeake collections should implement the following four items.

1. Establish a priority for all the collections.
2. Place collections into appropriate curation repositories in each state of origin.
3. Rehabilitate the collections and associated documentation.
4. Develop an archives management plan.

Implementation of these minimal tasks will greatly slow the current level of deterioration that faces EFA Chesapeake collections and will subsequently add to our understanding of the culture history of North America.

Recommendations

The following general recommendations are submitted for bringing all EFA Chesapeake collections into compliance with the mandates of 36 CFR Part 79, Curation of Federally-Owned and Administered Archaeological Collections. A comprehensive plan for curation compliance includes the following points.

Develop a Plan of Action

A plan of action minimally must address four points- (1) long term housing of the collections and records, (2) rehabilitation of the artifact collections, (3) rehabilitation of the associated records, and (4) management of this data.

Develop a Formal Archives Management Program

A plan of action should immediately be developed to establish archives-deficiency priorities for EFA Chesapeake collections. Following this survey, all records should be coalesced and rehabilitated to comply with federal guidelines and standards for archival preservation. Archives rehabilitation should precede collections rehabilitation, because the documentation that the assessment team was able to locate is in more immediate danger of being lost. Estimated rehabilitation costs for these collections is approximately \$6,000. Archives rehabilitation includes eight steps.

1. Inventory and catalog all associated records to standards consistent with those of a professional museum.

2. Conduct a condition assessment of all records, and implement a long-term conservation program for appropriate records.

3. Conserve significant records that are currently at risk.

4. Transfer general records into acid-free folders and place in appropriate archival storage units.

5. Place photographs, negatives, and slides into archival polyethylene sleeves, acid-free envelopes, and appropriate storage units.

6. Catalog and curate large-scale maps in flat metal map cases.

7. Develop an archives inventory management program that uses microcomputer technology.

8. Produce duplicate/back-up copies of associated records that will be stored in a separate location.

Inventory and Rehabilitate Existing Artifact Collections

EFA Chesapeake collections should be assigned a priority based on physical condition, and the collections should be inventoried and rehabilitated to professional museum standards. Rehabilitation should include the following stages.

1. Inventory and catalog all artifact collections in a standard consistent with those of a professional museum.

2. Label and package artifacts to one consistent standard, and place them in archivally stable containers.
3. Conduct a condition assessment of all perishable artifacts and implement a long-term conservation program for appropriate materials.
4. Develop a collections manual outlining the policies and procedures to aid in the management of archaeological collections.

These steps will result in the stabilization and preservation of collections, and will ensure management of the collections in the most cost-efficient manner. Proper management of these collections will ensure that scholars, students, and the public have access to and benefit from the EFA Chesapeake archaeological collections, which presently do not approach their potential for use. Cost for rehabilitation to the EFA Chesapeake archaeological materials should be no more than \$100,000. Contingent upon EFA Chesapeake curation decisions, an additional \$50,000 may be required for equipment needs associated with the collections.

Bring Together Collections

As a plan for the long-term collections management of EFA Chesapeake collections (artifacts and records), the MCX-CMAC recommends bringing all collections together into a single repository located within each identified state. The repository should be one that meets or exceeds the minimum standards listed in 36 CFR Part 79 and should be able to accommodate current collections.

Develop Cooperative Agreements

To defray costs, EFA Chesapeake is encouraged to develop cooperative agreements with other federal agencies with similar curation requirements.

Dedicate Space for Storage of Collections

Following the adoption of a curation strategy, EFA Chesapeake must develop a plan of action that identifies how their curation facility will function. Space must be dedicated strictly for curating archaeological collections and associated records. Office, research, and work areas must be separated from storage areas. Space that is used both as storage and work areas is not acceptable. Minimal curation standards must include the following points.

1. To minimize the deterioration rate of curated objects, storage space must have environmental controls that maintain humidity and temperature at constant levels.
2. Storage space should have a minimal number of doors and walls, and preferably no windows, in order to decrease security risks and the chance of condensation forming on walls and windows during seasonal temperature changes. This will also increase energy efficiency.
3. Storage space should have no water or sewage pipes overhead. Only the sprinkler system for fire suppression should be installed above collections.
4. Access should be limited to curatorial staff, therefore meters for gas and electricity, and electric junction boxes, should be outside of the collections storage areas.
5. The space must be large enough to house existing collections adequately and to accommodate future additions to the collections.

Provide Security, Adequate Fire Detection and Suppression, and Facility Maintenance

As part of any collections storage facility, a plan of action must include measures for security, fire protection, and maintenance of the collections storage area.

Security

To adequately protect the collections, both structural and procedural security measures should be taken. The building should have an appropriate and operational intrusion-detection and—deterrent system. A recommended deterrent system included limited access, structurally sound walls and doors that are ideally without windows, and the use of locked cabinets within the storage area. Structural items that provide adequate to optimal safety include the use of doors that have either solid wood or metal. Doors should have both dead-bolt and key locks.

Access to collections areas should be restricted to repository personnel. Keys to the storage area should be restricted to curatorial staff. Researchers and visitors should be allowed access only under the supervision of curatorial staff. A study room should be provided outside of the storage area for the use of researchers needing extended access to collections. Fragile and valuable items require additional security through the use of a locked specimen cabinet, safe, or vault. Additionally, an emergency-management plan should be created to address such emergencies as fires, floods, natural disasters, civil unrest, acts of violence, structural failures, and failures of mechanical systems within the physical plant. A plan of action for each circumstance should be prepared.

Additional safety measures must be taken for protection from earthquake damage. Building structures must be kept up to the latest earthquake codes. Ideally, storage units should have locking doors or bars to keep contents from sliding out. Cabinets should have supporting braces and be bolted to the floor. Drawers should be lined with Ethafoam®. Fragile objects should be wrapped in Ethafoam® for extra protection.

Fire Detection and Suppression

Fire detection and fire suppression systems must be installed to safeguard collections and personnel. Smoke detectors must be placed in all parts of the collections storage area. In addition, the appropriate types and number of fire extinguishers, in relation to the types of collections and the overall size of the collection storage area, must be properly maintained and placed in clearly marked positions within the collections storage area. Sprinkler systems should be

installed throughout the facility and in the collections storage area.

Facility Maintenance

The facility, including collections storage areas, needs to be regularly maintained through scheduled activities including regular cleaning, pest-management procedures, and maintenance of utilities and support systems. Curatorial staff or a bonded janitorial service should schedule routine sweeping, mopping, and dusting of the storage area.

An integrated pest-management system must be put in place. Collections should be regularly inspected for infestation, and monitoring devices such as sticky traps for rodents and insects must be used. Regular spraying for pest control must be included in the plan. New collections must be isolated in a separate room as a precaution against mold or pest infestation. Infested collections must be properly treated before they are integrated with other collections.

Support systems, such as temperature and humidity controls, must be regularly monitored. Dust filters should be changed regularly. Gas, electrical, intrusion detection systems, lights, plumbing, fire alarms, smoke detectors, and the sprinkler system should all be regularly maintained and tested. Restrictions on smoking, eating, and drinking in storage areas should be adopted.

Full-Time Manager for Archaeological Collections

It is imperative that a full-time collections manager be hired to care for the archaeological collections. This person should have professional qualifications and prior experience in collections management. Collections managers minimally are responsible for the following items.

1. Ensuring the adequate written policies and procedures are in place, and are shared so that staff has appropriate guidance.
2. Ensuring that management records are kept up-to-date, are complete, are properly monitored, and are readily available to researchers.

3. Managing a computerized database.
4. Ensuring that artifacts can be located easily.
5. Ensuring that objects are properly labeled.
6. Ensuring that the artifacts and records are maintained under physically secure conditions, whether in storage, on exhibit, or under study.
7. Performing periodic inventories and inspections of collections and records to ensure their long-term survival.

The MCX-CMAC regards all the aforementioned recommendations as minimal tasks that must be addressed in order to bring EFA Chesapeake collections into compliance with federal standards for archaeological curation. EFA Chesapeake has been entrusted with important collections of historic and prehistoric artifacts. Its trust lands today occupy areas of great importance in the history of this country. Our knowledge of Native American prehistory, American history, and of Anglo/Native interactions may benefit from EFA Chesapeake collections. The United States citizenry trusts that its national heritage will be preserved for future generations. Undoubtedly, EFA Chesapeake contributions to that heritage are important.